

Vietnam and Other Alien Worlds



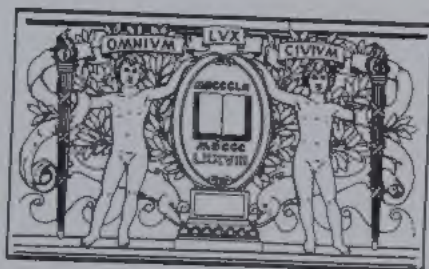
Joe Haldeman

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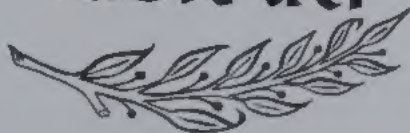
covers a lot of ground, from the killing fields of a generation past to strange worlds centuries in the future. It covers spectra of feeling from terror to gentle nostalgia, humor to curiosity; it goes from the sublime to the ridiculous and back again. Included in one place for the first time are the novella and three novelettes set in Haldeman's "Confederación" universe, the odd future that was the stage for his novels *All My Sins Remembered* and *There Is No Darkness*. His nonfiction is also collected here for the first time, from the autobiographical essay that gives this book its title to observations about art and space travel and reading. Four narrative poems close out the book, finally returning to Vietnam with the acclaimed "DX."

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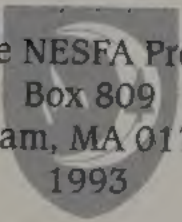


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Vietnam and Other Alien Worlds

Joe Haldeman



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For science fiction fandom.

Contents

Introduction	vii
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The Confederación Stories

Passages	5
A Tangled Web	29
Seasons	55
The Mazel Tov Revolution	113

Essays

Vietnam and Other Alien Worlds	135
Not Being There	149
Confessions of a Space Junkie	165
War Stories	181
Photographs and Memories	195

Story Poems

Saul's Death	203
Homecoming	207
Time Lapse	211
DX	217

Introduction

The Confederación Stories

The Confederación is a universe I use whenever I need a starfaring, interstellar-commerce background for a story. (I know that you can argue against the possibility of both "starfaring" and "interstellar commerce," but hey, these are *stories*!) I made up the background originally for two novellas that aren't included here, "To Fit the Crime" and "The Only War We've Got." They make up about half of the novel *All My Sins Remembered*.

I wrote the story "To Fit the Crime" back in 1971, in response to a request by Hans Stefan Santesson for stories about crimes that could only be committed in the future. I guess it was either rejected or the anthology never got off the ground. For whatever reason, the story appeared in *Galaxy* magazine, and reader response prompted the editor to make me a generous offer for another novella in the same universe. I did the practical thing and let it grow into an episodic novel.

The novel *Starschool*, a collaboration with my brother Jack C. Haldeman II, also takes place in the Confederación universe, and there are four other stories with that setting, which are collected here:

"Passages" started out with a typo. I typed the nonword "fireworms" instead of fireworks, and that suggested possibili-

ties, so I copied it onto a little piece of paper and stuck it on my bulletin board. About ten years later I actually started a story about fireworms, but it seized up after a few pages. For some years I tried different angles with it, but nothing worked until I realized I had to throw out the damned fireworms. Then everything clicked.

Nobody has ever noted that this story shares a character with *All My Sins Remembered*. It takes place a couple of years before the last chapter of that book.

"A Tangled Web" started out as a goof. Jerry Pournelle and I were talking about *Star Wars*, and he said, aw hell, every science fiction writer has written that aliens-in-a spaceport-bar scene a dozen times. I hadn't, though, so I thought I'd better. It was a lot of fun to write, and I don't think any of my stories has elicited more favorable responses from readers and other writers. I should drink beer with Jerry more often.

"Seasons" is a lot more serious, not to say somber. I think it's one of my most successful stories, but it started out as a kind of intellectual challenge. I'd contracted to do a novella for the book *Alien Stars*, whose theme was "conflict with aliens." I didn't want to do a simple space-war story, so I came up with an idea that involved an epistemological conflict—some humans certain that they understand how these simple aliens see the world, and they're dead wrong.

In the process of planning the story I read a bit about what other writers and critics had said about the novella. Irving Howe, in an excellent essay that prefaces *Classics of Modern Fiction: Ten Short Novels* (Harcourt Brace Jovanovich, 1980), said,

Whereas the short-story writer tries to strike off a flash of insight and the novelist hopes to create the illusion of a self-sufficient world, the author of the short novel is frequently concerned with showing an arc of human conduct that has a certain symbolic significance. The short novel is a form that encourages the writer to struggle with profound philosophic or moral problems through a compact yet extended narrative.

Another writer pointed out that novellas often mirror the structure of classical drama, which got me to thinking: Classical tragedy is built around the main character having a tragic flaw, a *hamartia*, that ultimately causes him to make a mistake that provokes the gods to harm him. How could you express that structure in terms that were secular and futuristic? I wound up with a situation where the main character is a scientist, and her equivalent to *hamartia* is an unquestioning faith in her professional intellectual tools, in the scientific method. And it isn't the gods that turn on her; it's her own subject matter.

Finally, "The Mazel Tov Revolution" is a piece of silliness that I wrote as an extended joke on fellow writer Jack Dann. The background to it is in the story's introduction in my collection *Infinite Dreams*—suffice it to say that I had to write a funny story that involved a Jewish character and the effect of faster-than-light travel on political power.

Essays

Three of these essays were articles written for publication that for one reason or another were not published. I do think they're good, or they wouldn't be in this book.

"Not Being There" was a post-*Challenger*-disaster piece commissioned by *Rolling Stone*. I'm not sure why they didn't print it; possibly it was because they didn't like it. I collected my kill fee, though, and never marketed it elsewhere; too long and, for mundane publications, no longer timely by the time they rejected it.

I also thought "War Stories" was too long and too timely to remarket. It was a "gang review" of a bunch of related Vietnam books that I did on assignment for a literary magazine. They sat on it for a year, and finally rejected it with no comment. I suspect it was not liberal enough, in some narrow literary/political sense, but they didn't ask for any particular viewpoint, so I fell back on honesty. At least they did reimburse me for the books.

"Photographs and Memories" I wrote to sort out my feelings about the Robert Mapplethorpe exhibit "The Perfect Moment." I sent it off to *Playboy* and the editor said that if he had seen it a few

months earlier, he would have bought it, but the Mapplethorpe exhibit was closing (Boston, where I saw it, was its last city) and by the time it got into print, the story would be cold. Fair enough; I didn't try to sell it elsewhere.

But there's a weird circle of events that leads back to *Playboy*. I teach a science fiction writing workshop every fall at M.I.T., and the assignment I give the students the first day is a "where do you get your crazy ideas" exercise. I assign each of them a random topic from a list of science fiction "motifs," like time-travel paradoxes, first contact, and so forth, and for the next class meeting they have to bring in a two-page beginning based on that idea.

If you've never written stories yourself, this may sound an awful lot like teaching a kid how to swim by throwing him in the deep end. Actually, it's not. In a curious way, it makes the writing easier. To demonstrate how easy it is, I have someone pick what he or she thinks is the hardest topic on the list, and while the students spend an hour filling out forms and stuff, I sit in front of them and write out two pages—the Harlan Ellison of my generation!

That particular year, the student chose "Science and Art in the Future." The two pages seemed to have promise, so I followed up on them with the brainstorming diagram on pp xii–xiii, and went off to the Mapplethorpe exhibit for inspiration. "Photographs and Memories" resulted as a byproduct.

The two pages and diagram sat around for a year. I was headed off for a summer of travel and was just finishing up the novel *Worlds Enough and Time*; when it was done I thought I would spend the rest of the summer doing short work. The two pages wound up growing into a novella, "Feedback," which ultimately sold to *Playboy*, and should be out a few months before this book.

"Vietnam and Other Alien Worlds" and "Confessions of a Space Junkie" belong to the venerable genre of science fiction convention Guest-of-Honor speeches recycled into articles. They both have interesting autobiographical material—interesting to *me*, anyhow—and this seemed like a good place to put them together. They relate to the others, as well.

Story Poems

If you skip this section the book will burst into flame and burn your house down. Maybe.

Okay, nobody reads poetry anymore unless they are themselves poets. Fortunately, perhaps, there are more poets living today than existed in all the centuries preceding the invention of the typewriter.

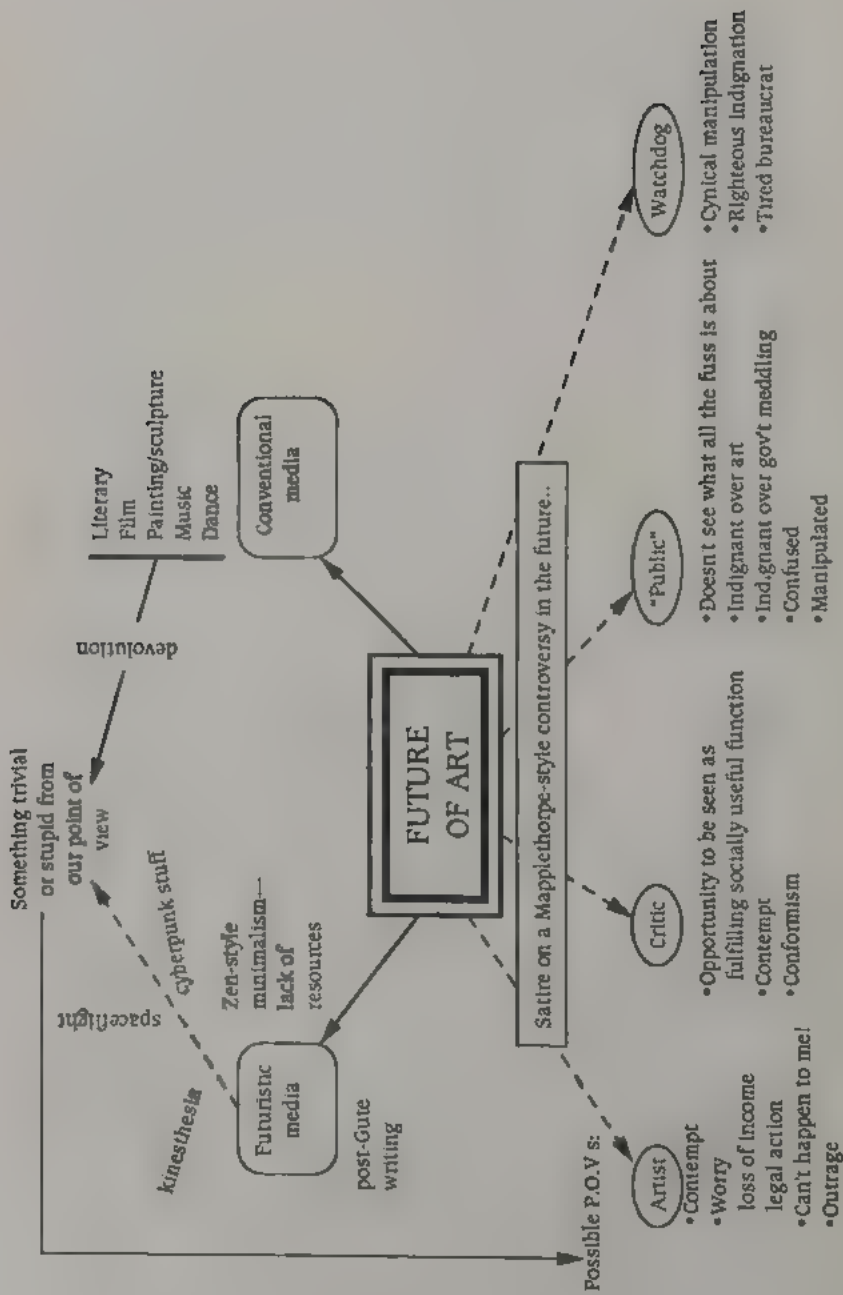
Of course a lot of these
poets
are just people
who hit the RETURN key
whenever they feel like
it.

But that phenomenon is beyond the scope of this introduction. Suffice it to say that there is a persecuted minority of poets who think that poetry could be more popular with actual readers if it only were more interesting. It might even venture toward accessibility. It might even tell a story now and then; in fact, there are some stories that beg to be told as poems.

I did "Homecoming" and "Time Lapse" in response to requests from editors of "theme" anthologies—Anne Jordan wanted science fiction stories about home towns for *Fires of the Past* (St. Martin's, 1991) and Ellen Datlow wanted modern-to-postmodern vampire stories for *Blood Is Not Enough* (Morrow, 1989).

"Saul's Death" is unlike the other three story poems in that it follows a classical form: two linked sestinas. Readers familiar with formal poetry or modern poetry will probably see the *homage* here to Ezra Pound's riveting brutal poem "Sestina: Altaforte." I once gave a reading of this poem without mentioning the connection and James Dickey came up afterwards and clapped me on the shoulder and said "Way to go, Ezra." To this day I'm not sure whether that was a compliment or a dig

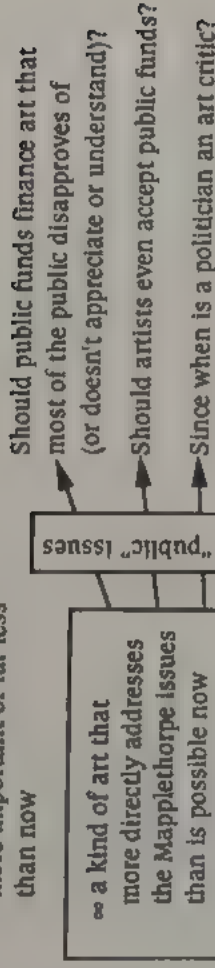
"DX" was just something I had to write. I blasted out the first draft of it in one four hour sitting, feeling weirdly possessed. I've mentioned elsewhere that I think it may be genuinely unique in that it's both pure autobiography and actual science fiction



Problems:

...Making the sf part necessary—not just a translation of present problems into a future environment...

∞ a future where art is either far more important or far less than now



Some art, good or bad, is subversive by nature

One function of art is historical, not esthetic

Some art reinforces (and not incidentally preserves) cultural values

But you can argue that either of these might be appropriate candidates for public funds—art that functions to improve society might necessarily appear subversive at first

Honest artist caught in the middle vs. Cynical hack making hay out of situation

**Vietnam
and Other
Alien Worlds**

The Confederación Stories

Passages

Life begins in a bloody mess and sometimes it ends the same way, and only odd people seek out blood between those times, maybe crazy people. I feel that way now. But the first half of my life ran with blood, most times animal blood, sometimes human. I was a certain kind of hunter's guide.

In those days I didn't have an office on any planet. Not in the sense of a physical place to meet clients. The character of the place where a client asked to meet, his home or otherwise, helped me decide whether to take him on. And the way he dressed, spoke, held himself. It's a special sense, a gestalt. If you took on every darf who had the money you'd wind up dead, and him too.

It almost always is a "he." There are more woman than men with money, but to want to hunt, you need that instinct to point at something and squirt it.

Raj Benhaden III had picked a good meeting place, a milk bar where the young serving women wore face veils but nothing substantial from collarbone to ankle, and where wine was available for infidels like me. But he didn't otherwise make a good first impression. He surged through the beaded door curtain, a large muscular man with a looking-for-trouble expression, scanned the room imperiously, nodded at a signal from one of the women, and then stomped over to my table with the chunky gracelessness of the overtrained athlete. His first two words:

"You're white."

"So was my mother."

He nodded at that revelation and sank into a chair. "You don't look like a hunting guide."

"You don't look like a prince."

"Really. What do I look like?"

Time enough for tact later, if I decided to take the job. "You look like a midclass man who was on the team in school. Say, fifteen, twenty years ago. Now you spend a lot of time in the gymnasium. Trying to turn the clock back."

He nodded again, staring. "Slow it down, anyhow."

A beautiful hour floated over with a glass of mint tea. He took it without appearing to notice her. "A cousin of mine from Earth engaged you last year. He recommended you, so I looked up your listing in Registrar Selva. You've worked a lot of places."

The only Earthie I'd guided in a year had almost been the end of me. Crazy man. "M'suya was your cousin?"

"M'suya." He smiled slightly. "Don't worry. The rest of the family is almost normal."

"I've never been hired by a normal person. Normal people don't seek out the company of dangerous animals."

"A point. Selva says your specialty is trailbreaking, taking hunters and collectors to new places."

"Which is why your cousin hired me." We'd gone to a planet called PZ1439, too new even to have a name. "But I prefer to know at least something about the place, the kind of creatures we'll be up against."

"This place is not completely unexplored. The creature has been observed a few times." He paused. "The planet Obelobel. I want the skin of a balaseli."

"I don't know the animal. Think the planet's closed, though."

"The animal is worth the trip. And I can take care of the quarantine. What do you say?"

It sounded okay. "I'll have to do a little research—"

"No. Decide now."

His eyes were actually glittering with excitement. "Sure. Leave soon as you put the fix through."

He stood up. "Tomorrow." I watched his large back sail away.

Rich people always leave you with the check. His mint tea was still steaming, untouched. I tasted it; too sweet. Sipped the wine slowly, appreciating the women, thinking it would be a while before I saw another. If only that had been correct. The next woman I met would turn out to be less pleasant to deal with.

As expected, two drinks' tariff would have bought a good meal on Selva; a banquet on Earth. Raj would pay it back a hundredfold.

I liked working from Qadar, though your daily expenses are the size of some countries' budget deficit. They pay you twice as much as elsewhere, with no argument. And they have a good library. I went back to the Hilton to punch it up; find out what was known about Obelobelians and the balaseli.

Obelobelians are weird, which is no distinction among alien races, and the balaseli is about a hundred kilograms of bloody murder that leaps out of the night. I began to have qualms.

It's a twelve-legged, eyeless (sonar-ranging) creature about twice the size of a human, which is to say about three times the size of an Obelobelian. The six legs on either side are joined with leathery membrane, like the wings of a Terran bat. On the inner surface of the wings are tens of thousands of stiff curved cilia: tiny hooks. It kills by enveloping the prey and ripping its skin off in one swift jerk.

It doesn't have a true mouth. While the prey is still twitching, a slit opens up along half the length of its thorax, ventrally, from the base of the tail to the middle of the chest, and its stomach everts, rippling up over the hooks (which all point outward) to enclose and seal off the dying, flayed animal. Strong acids and enzymes digest the meal in about fifteen minutes, during which time the balaseli is theoretically helpless. It leaves behind a compact husk of undigested hair, bones, and nails, and perhaps corroded jewelry.

You could think of worse ways to die, but it would be a short and disgusting list.

The Obelobelians have a rite of passage, which had been seen only once by humans at the time, that involves going into a cave and offering yourself as food. The balaseli evidently knows what eyes are; it only attacks from behind. You evidently have to sense

its approach, turn quickly, and impale it. A test of the hunter's, or soldier's, sixth sense—which I hoped was highly developed in the ruling class of Qadar.

The caves where the beasts live typically form clusters of interconnected hemispheres, each the size of a large sports stadium. During the day, the balaseli cling to stalactites at the tops of the domes. They usually have to go outside to hunt, at night, since few large creatures are stupid enough to wander into their lairs. Their normal prey are young and old strays from the herds of saurian egg-producers that accompany the Obelobelians on their seemingly random migrations around the planet's one continent.

The Obelobelians use the rite as part of a ruthless simple form of population control, sensible on such a barren planet. No one goes through the rite of passage until someone has died. The next night, a young native goes into the cave; he or she comes out sexually mature, and immediately mates with a predetermined partner. A female mates only once in her life, but always has multiple births. The number of offspring she will have, they say, depends on how many die in the rite of passage before one makes it through.

The balaseli kill about half of the youngsters who go into the caves, but don't bother the natives otherwise, though they sleep unprotected, not having invented the roof. The balaseli haven't bothered the humans yet, either, a few dozen xenologists who perforce also sleep under the stars, though perhaps not as deeply as the Obelobelians.

The three-week trip was uneventful. Raj Benhaden III was unusually reticent for a Qadarem. Their planet doesn't have much commerce beyond the exchange of knowledge, and that exchange is normally quite vigorous. I spent a couple of months on Qadar once, helping set up a xoo there, and you couldn't say one plus one equals two without getting some discussion. A world full of theologians and philosophers.

But Raj was a throwback; he admitted as much in a rare spate of conversation. Most Qadarem are vegetarians, and hunting (as opposed to live collecting) is almost unheard of on the planet. He offered no explanation for his aberration. No, his father didn't

hunt. No, he had no philosophical justification for it. No, given a choice in the matter, he didn't eat meat. Yes, he had killed men, in war.

(This we had in common: we had both spent a year of our youth playing at mercenary, on the planet Hell. He did not elaborate, but I got the impression that he hadn't enjoyed the experience much more than I had.)

I couldn't get him to argue about anything, so I pretty much retreated to my books, and he to his body. He had a training chair loaded with weights and springs and pulleys that he could use to isolate any particular muscle and torture it into prominence. A harmless enough compulsion under normal circumstances, but with an ominous aspect here: physical strength was probably going to be irrelevant, since the Obelobelians who went through the rite of passage were as weak as ten-year-old humans. With every bulging muscle, Raj was building up false self-confidence.

When I pointed this out to him, he just nodded amiably and went on sweating.

We came out of orbit to a cloudy spring day, indistinguishable from a cloudy summer-fall-winter day. The planet has a circular orbit and no axial tilt, so no seasons, and the sky is always a uniform thin mist, so no weather. Unless you count heavy dew every night as weather. A gray moldy planet in its large temperate zones, with a lot of caves and a breathable, but unpleasantly musty, atmosphere. The ground was a tangle of presumably inedible mushrooms. Our floater homed in on the silvery dome of the Confederación's research headquarters; slid through the force field and landed.

I hadn't expected trouble with the local bureaucracy, since the planet had no humans other than the xenologists. As luck would have it, the woman in charge recognized my name.

" 'Gregorio Fuentes,' " she read off the first page of the grant. She dropped it on the small folding table and stood up. She looked like she wanted to pace, but the tent wasn't really big enough. So she contented herself with adjusting the heat under the teapot. With her back to us, she said one word: "Poacher."

"Come on, now," I said. "You can't poach where there's nothing to hunt."

"Oh, just in spirit." She turned and looked at us tiredly. "I assume you're interested in the balaselis."

I tapped the folder. "It's all in here."

"Marvelous creature," Raj said.

"Any xoo would pay a fortune for one," she said, her expression not changing. "But you can't have one."

"Nothing could be further from our minds."

"I'm sure." She poured three plastic cups of bitterroot and served us. "I mean you really, physically, *can't*. You're ten or twelve years too early. No individual can be culled until we have a population estimate. And there's no way in hell you can sneak one up to orbit; they're just too big."

Bitterroot is a special taste I have never acquired. I sipped the nasty stuff and tried to keep my voice pleasant. "The grant is quite clear on that. I'll be collecting some common smaller species that may eventually wind up on display. No balaselis."

"We merely wish to observe them *in situ*," Raj said quietly. She stared at him and then at me. "I see. Thrillseekers."

"Not at all." I picked up the folder and offered it to her. "Our credentials are in order."

She ignored it. "I'm sure they always are. There's never any shortage of hungry universities. Or bored rich people."

Raj smiled at her. "I have never been bored in my life."

"Then you've never been a scientist forced to push government papers around." She snatched the grant and riffled through it. "I'll go over this in detail tonight. If you've dotted all the *t*'s and crossed all the *i*'s, you can leave the dome in the morning. You understand the quarantine procedure?"

"Of course."

"We'll be watching you every moment. No human artifacts. You go out there completely naked. One wristwatch, one *pencil*, and I'll have you confined until the next Confederación inspection team arrives. That will be a long time. Understand?"

"Yeah. But why not cooperate with us?" I said. "The sooner we...complete our research goals, the sooner we'll be a memory."

"Your *research* could be a disaster," she said, her voice starting to shake. "The Obelobelians are the most primitive alien culture we've ever encountered. Perhaps the most primitive that ever *will*

be encountered. We have to proceed with extreme caution. Just the fact that we have to communicate with the Obelobelians contaminates the very data we seek. And we are highly trained, dedicated, and *careful* researchers. Anyone else who comes in contact with them is a wild card."

"We won't try to sell them any trinkets," I said.

"If they had any money, I suspect you would." She stood up. "I'll contact you in the morning."

I thought the quarantine restrictions were ridiculously tough and also hypocritical: the Confederación's presence was marked by a shimmering silver force dome over a hundred meters in diameter, with floaters almost daily dropping out of orbit and returning. The natives might notice.

Dr. Avedon was not happy with our knives, but couldn't confiscate them. They were both genuine Obelobelian artifacts, razor-keen chipped crystal, "on loan" from Selva's Museo Arqueológico. I needed mine to make cages. Raj needed his to make a spear.

I was going into the cave with him, but not as a combatant. The balaselis supposedly would ignore you if you kept your back to the wall, and that was exactly what I intended to do. Unless Raj got into trouble. Then I would help him—if it looked like it would do any good—but my fee would be quadrupled. Raj agreed to this with the easy confidence of a man who lacks the imagination to picture his own death, or who simply holds death in contempt. I never got to know him well enough to figure out which.

Even after we were allowed out of the dome, we had to spend a day in preparation. I had to weave the equivalent of rucksack and canteen out of local materials. A xenologist on Selva had showed me how—but it's one thing to duplicate a primitive craft under controlled conditions, with the help of an experienced tutor, and quite another to go outside and hack down the materials and try to do it from memory. The first half-dozen canteens I wove would have made decent colanders.

I gave up trying to work outdoors. The cold didn't bother Raj—Qadar is no tropical paradise—but it made my fingers numb and clumsy. Finally I pieced together two rucksacks and four liter-

sized canteens. We rested and set out at first light.

The map I'd memorized didn't do much good. No compass and no sun, just uniform dull gray from horizon to horizon. Fortunately, it was easy to follow the trail the scientists had made, a conspicuous path of crushed fungi.

It was certainly the most depressing world I'd ever seen. The scenery was like the magnified surface of a diseased organ. The dominant form of fungus was a sort of mushroom with an inverted cap, like a bowl, always full of scummy evil-smelling water. Pasty white with streaks of brown and gray. The only green in the landscape was an occasional stand of bamboo-like grass, which had provided the material for my weaving and Raj's spear shaft. It was a sickly mottled chartreuse of a green.

Also slightly green was the fungus that began to grow on us after about an hour, a slick powdery fungus that crawled out of armpits and navels and the moist crease between scrotum and thigh. It looked bad enough on my olive skin, but on Raj, whose skin was so black as to be almost blue, it was spectacularly ugly.

(It's very strange for an alien life form to find humans amenable as hosts, or food. Because of divergent evolutionary patterns, we're usually incompatible at the level of DNA. We'd discussed the possibility that the balaselis would turn up their noses, if they had noses, at Raj. In that unhappy case, I would get a "no-kill fee," equal to one third of the standard guide's fee.)

I'd made my rucksack twice as large as Raj's; it was actually a double-compartmented cage with carrying straps. We both kept our eyes sharp for specimens, and we couldn't have missed much. Anything that twitched on that moldy mausoleum of a landscape would have stood out like a live bug in a plate of cold spaghetti. We went all day without seeing anything, though, which was boring but not surprising. Most of the loathsome creatures who crabbed or slithered through the toadstools were nocturnal. I was sure there would be plenty of them around when we were trying to sleep.

We didn't talk much during the trek. I tried to start conversation a few times but Raj damped it with monosyllables. So I was sort of relieved, looking for some human contact, when we came over a small rise and saw the archaeologists' encampment. It was

a well-tramped circle a couple of hundred meters from an Obelobelian "village," which was just a scatter of belongings and shared fires. About a dozen of the skinny pale horse-sized dinosaurs that the Obelobelians followed around, the tytistu, grazed mushrooms or slept standing up. A thin man with a white beard walked up the path to meet us.

He didn't look happy. Before I could introduce us, he said, "You're the adventurers. Fuentes and Benhaden."

"You're in touch with Dr. Avedon?" I said.

He opened his mouth and pointed to a molar. "Radio. She says your accreditation is in order and we are not to hinder you. Nor cooperate, you might as well know."

"Which is stupid," I said, regretting it but forging on: "Your own project's funding can only benefit from our visit here. There will be publicity."

"Publicity to bring more thrill seekers. We're trying to do *science* here, Fuentes; it's not a freak show." He turned and walked away. That was the last word we heard from any scientist, until they came up the hill to help me with Raj.

We made our "camp"—putting down our rucksacks and kicking away enough of the disgusting undergrowth to make sitting space—just downstream from the scientists' and Obelobelians' camps. The river, wide and shallow, barely moved. The water was gray and smelled like stale cheese. We followed the xenologists' lead and gathered our water upstream from the Obelobelians. We weren't likely to catch any disease from alien pollution, but it did sometimes happen, usually with fatal results.

Raj settled in to make a few backup spears while I went off in search of a good cave. I didn't want to antagonize the scientists by spending too much time talking to the Obelobelians, contaminating their precious data, so rather than ask directions I just followed a conspicuous path that led toward likely-looking hills.

The hills were rocky, inhospitable to the mushrooms; the only vegetation was lichen of muted earth hues. I did find animal life, though, kicking over rocks. Small invertebrates that resembled Terran millipedes, mainly. Not worth collecting and possibly biters.

There were plenty of caves, but it was some time before I found one large enough. All of them probably led to the balaseli domes, but I wanted to be able to exit standing up and moving fast.

When I found a large enough entrance, I shed the rucksack and went in with just the knife. Like Raj's, my knife was a slight violation of technological quarantine. It truly did come from Obelobel, but had made a couple of stops on the way back. I gave the handle a sharp twist and the end of it popped open, exposing a small powerful flashlight.

The balaselis supposedly slept during the day, but my experience with large dangerous animals had led me not to put too much trust in established behavior patterns. Besides, the cave could harbor smaller perils. Its Terran counterparts might be havens during the daytime for rattlesnakes or scorpions or vampire bats. So I entered very tentatively, literally one step at a time, my eyes fixed on the darkness, knife ready and light beaming forward. It was easy to visualize what I must look like to any cave dweller: a dangerous hulking silhouette with one gleaming eye. Most animals confronted with the unknown will either run away, seek refuge in shelter or camouflage, or attack. I wanted to give everybody plenty of time to exercise the first two options.

The cave entrance took a sharp turn to the left and began angling down. I waited at the corner, light off, for several minutes while my eyes became better adapted to the dark. There was a constant tattoo of dripping condensation echoing from the chamber ahead, and the downhill path I stood on was dangerously slick. The fungus odor of the air outside was mixed now with a surprising earthlike cave smell of wet rock, along with an acrid metallic tang I couldn't place. It was cold.

I turned on the light, careful not to look directly at it. The downward path continued on for some fifty meters, widening all the way, ending in a ragged square of blackness that I assumed was the entrance to one of the domes.

I have never liked cave work, but Raj was paying well for me to overcome my aversion. Keeping my naked back pressed cold against the wall, I worked slowly down toward the deeper darkness.

The domed cavern was too large for my light to reach to the

other side. In the center was a black lake, evidently shallow, since ghostly fingers of stalagmites broke the surface here and there. The surface was constantly in motion with the widening, intersecting circles of ripples from the water that dripped from above. I suppose it was pretty.

Using the trick of averted vision, I could just make out some details of the cave ceiling. What I saw turned my blood colder than my freezing skin. Nestled among a matrix of stalactites of various sizes were dozens of black shrouds, *balaselis* in repose. They shifted and flapped languidly in their sleep, perhaps reacting to the intruder below. An imperative buried deep in my reptile brain was trying to persuade me to evacuate my bowels and run. I forced myself to study the scene for a minute or so, trying to visualize Raj standing there with his torch and spears. It looked very bad. If several of them took an interest in you, it was hard to see how you could survive. But every native did go through this, and enough lived to perpetuate the species.

I backed out very slowly, my own fear-smell sharp in my nostrils. I doubted that any animal on this planet would interpret the odor correctly; it might even signal to them that I was poison or at least not food. Raj might have that in his favor, if he was human enough to sweat fear.

I was still somewhat shaken by the time I returned to camp. I almost tried to talk Raj out of it, even though the no-kill fee wouldn't cover my time and expenses.

"They are only animals," Raj said. "We were given dominion over them."

"Don't feed me religion. We're animals too—animals with sharp sticks, granted—but there are dozens of them, and only two of us."

"One of us. I don't expect you to interfere." He nodded toward the Obelobelian camp. "What they can do, I can do."

"We don't know that. Maybe they have some magic word that turns the beasts into obedient puppies."

"That may be." He laughed politely and returned to his chores, spearmaking and fire-maintaining. He had borrowed, or taken, some fire from the Obelobelians, and was feeding it the way they did. A circle of uprooted fungi surrounded the flame; once dry, it

burned about as well as dried animal manure, but smelled worse. Fires were started with kumali, a morel-shaped fungus that was a staple of the native diet. They were so saturated with vegetable oil that, skewered, they could be used as torches. He had collected several.

He was making backup spears out of the bamboo-like stalks. Sharpen the green wood and then blacken it in the fire; anneal it by quenching it in the wet ground; resharpen and start over. After a few iterations you had a black splinter that might spit a balaseli. Or might just annoy it, if you didn't hit it just right.

"Plan to aim for the heart?" He grunted uninformatively. "Or the brain—the brain would be good, if it's not behind too much—"

"Enough subtlety. I understand."

"Well, just how do you plan to kill a large animal with a spear, not knowing where any vital organs are?"

"I don't have just *a* spear." He hefted his heaviest spear, the one with his knife lashed on the end. "This should stun the creature no matter where I hit it. Long enough for me to pierce it with several others."

"And hope one of them—"

"Yes, hope."

"And hope none of the other beasts—"

"Yes, *hope!*" He turned his back to me and resumed work. I watched him for a couple of silent minutes.

"I feel as if I've been hired to preside over an elaborate suicide ritual."

"The first part, you have right. You *have* been hired." He turned around and looked at me, scowling. "And you don't say that to a Qadarem. A man may give his life. But not take it."

I knew that. "It is suicide. If I have any instinct about animals."

"That may be your problem, Fuentes. Too much instinct about animals, and not enough about humans." He stood up and gathered a few spears. "But you are a good guide. Please guide me now to see these monsters."

Since I didn't have to search for the place, we got there in a brisk twenty minutes. I led the way inside. Raj followed my instructions, making slow progress for dark adaptation as well as caution, but his impatience was palpable.

When we got to the dome we both stood against the wall for several silent minutes, studying. With the extra flashlight, I could see that my estimate of a few dozen creatures was far too small. Hundreds of them crowded the high ceiling. With the extra light I could also make out considerable variation in size and color. Most of the large ones had glossy black shrouds, but the smaller ones—some small as a human infant—were mottled or even striped in what seemed to be subtle shades of red and brown. Of course colors are elusive at low light levels.

"Still want to go through with it?" I whispered. "There's enough up there to take care of that whole tribe and go away hungry."

"They must not eat often," he said, "for this barren area to support so many."

"Maybe that's why it's so barren. They killed everything bigger than a mouse."

He snorted. "You don't believe that. There must be ecological balance."

"Not in the short run, there doesn't. Not even in the long run, if we're witnessing a basic evolutionary -"

"I know what it is. Burst metabolism. Large reptiles on my planet have that. They lie dormant for days, or even weeks, until something large enough to be worth eating comes close enough to catch. Then they move with great speed, for a few seconds."

"That's not unreasonable," I had to admit. "I suppose you've hunted them."

"Oh yes." He was smiling, staring upward, white teeth and eyes glowing almost disembodied in the darkness. "Bare-handed." Abruptly, he stepped away from the wall, going about halfway to the water's edge.

"Rajl"

"Shouldn't be anything to worry about," he said, far too loudly for my comfort—and then he *shouted* several words in Arabic. When the echoes stopped chasing around the dome, there was another noise: the beasts' wings rustling in reaction.

"Christ—you're waking them up!"

"Maybe one or two." He threw a spear straight up and stepped back to the wall. "I'd like to see them fly."

The stick slowed and began to tumble, and barely brushed one of the large ones. It stretched its wings, dead white inside, and let go of the stalactite. The stone column thrummed a deep bass note. The creature fell slowly, parachuting, and about halfway down beat its wings hard several times, hovering and then climbing back up to its perch. It grabbed the stalactite and folded itself around it.

"Not too fast," Raj said.

"Not awake yet." I was impressed by its grace and evident strength. "Let's get out of here."

"All right. And come back tonight, with torches."

"Unless you have an attack of sanity." If I hadn't been there, I suspected Raj would have just turned his back on them and walked straight out of the cave. But he obediently mooched crabwise along behind me.

Waiting at the cave entrance was a group of four Obelobelians, perhaps a family. Mature male and female, a tall host, and a child who didn't yet have any visible sex. All of the adults wore short black cloaks, made of hide from the balaseli's wings.

I greeted the host—the other genders never spoke with humans—and it returned the formal politeness but moved to block our way.

"Not night," It said.

I agreed: "Not night."

"Balaseli sleep?"

"Yes."

"Balaseli growing ritual, you?"

I put my hand on Raj's shoulder. "Him, tonight."

"Not young, him."

I thought for a second. "On his world, young."

It considered that in silence and slowly stepped aside. "Tonight."

They let us get about fifty meters down the trail and then followed in silence. We stopped at our fire and they walked on by as if in a trance. Of course, they were probably gossiping, joking, philosophizing like mad—telepathically.

At that time, the scientists were still looking at the Obelobelians as innocent flea-picking primitives, barely social, pre-agricultural

and so forth. Language limited to a few hundred words, mostly nouns and adjectives. As we later learned, only the hosts use spoken language, and before humans came, they only used it in ritual. One spoken word drowns out real conversation for minutes, echoing in their minds. Active verbs are the "loudest," so they avoid them.

I spitted a few mushrooms and roasted them over the smoldering lumps. The four days' food we'd brought cost more than the expensive knives. It took some delicate bioengineering to make mushrooms that looked like the vile things the Obelobelians ate but were nutritious to humans, and at the same time not poisonous to Obelobelians, just in case they took a bite. You couldn't ask for flavor on top of that. Filet of sock.

Raj seemed to enjoy them; he ate his three and then roasted another pair. Being vegetarian might have helped. Looking forward to the evening, rather than dreading it, certainly did.

One last try. "There's no way we're getting off this planet with a balaseli skin." I said.

"Leave that to me."

"What, you think you can bribe Dr. Avedon?"

"No. Though I'm sure she has her price." He picked threads of flesh off the outside, saving the best for last. "If she's still the only person in the dome, it's simple. She has to sleep. I leave the hide outside the dome until she does."

"Word of the kill may precede us."

He shrugged. "At worst, they throw us off the planet, I pay a fine, I don't get to keep the skin. That's all right."

"And I pay a fine, too, and lose my license."

"As we discussed. I'll compensate you."

"If you're alive."

"Even if I'm not." True enough: on Qadar, his family would assume responsibility for his debts. "Well. Look at this."

I turned around and saw a group of Obelobelians approaching. A tall host with a cloak, maybe the one we'd encountered at the cave, and eleven females armed with spears.

I spread my hands and spoke to the host. "¿Padafat oté tekanen?" I asked; what's up?

It spread its hands the same way, but with two more fingers.

"He cannot...*do!*"

"But he is young. He desires passage."

The host pointed at Raj's plumbing. "He is, he *has* passage."

"No," I said. "On his world, like mine, even young boys have that. Males are born like that." An Obelobelian's genitalia stay hidden until the rite of passage. Apparently the shock triggers a basic anatomical change—sort of like getting the stuffing scared out of you. (If you could believe what the Obelobelians told the scientists, that is. They wouldn't be the first autochthones to hide a sly sense of humor.)

The host turned its back on me and sat down. Two of the females sat down facing it. The other nine stared at us, rigid with discipline or fear or boredom.

"Do you think—" Raj began.

"Hush." He nodded. Probably not a good idea to interfere with the ritual.

After a few minutes the host stood and turned back around. The expression on its face would have been chagrin on a human's. He pointed at Raj. "You are die."

Raj was holding one of the fire-annealed spears. I saw his grip tighten. The host slouched and walked back down the path, along with the two it had been sitting with.

The other nine guards stayed, unblinking. Then they stepped forward three steps in unison, toward Raj, ignoring me. The one closest to Raj made an unmistakable gesture, pointing at his spear and then holding her hand out, palm up.

Raj's tone was pleasant and he smiled. "There is no way in seven hells I will give you this spear." She repeated the gesture.

"Better hand it over," I said. "Nine against two is no odds."

He looked at me. "Nine against one. You do what you will."

The guard very slowly wrapped her many fingers around the weapon's shaft. Raj watched the action in a calculating way. He would certainly win any contest of strength. With her other hand, though, she offered Raj her own spear.

"I'll be damned," I said. "She wants to trade."

Raj studied the heavy flint tip, the careful binding that fastened it to the wood. "Not much of a trade." He relinquished his and took the shorter, stronger weapon. "Thank you."

She put her palms together in an all-purpose social gesture and I told Raj to copy it. Then the nine of them ambled back toward their camp. The one who had made the exchange tossed Raj's spear aside.

"I would regard that as an omen of good fortune," Raj said.

"Acceptance, anyhow."

In retrospect, it seems odd that we didn't realize they were using telepathy. It had not at that time been demonstrated, although a form of it had been suspected for years in the case of the S'kang, of the carbon star Ember. But these creatures seemed so feckless and primitive.

For the next couple of hours we each rounded up bundles of the kumali torches and I improvised holders out of the soft dome tops of the largest fungi—that way we could have several of them burning in the cave and still keep both hands free, for spears.

"What are you going to do if they ignore you?" I asked.

"What do you mean?"

I shrugged. "Suppose the balaseli need some sort of olfactory clue to attack. Or suppose there's some gestural stimulus that young Obelobelians do instinctively."

"In that case, I suppose we'll have to wait until some native goes in for the ritual. If we follow along, we should be attacked as well."

"That could be a long time. What do you propose we eat, waiting for one of them to die?"

"Accidents happen."

That was too much. "I won't be an accessory to murder."

"I didn't say murder." He looked up at the slate sky. "Getting dark."

He was right, and I felt a sudden easing. I hate the waiting around before going into action. What's going to happen will happen, and worrying about it never helps. "Let's go."

I bundled up all of the small kumali torches and the improvised bases, and carried them under one arm, with a lit one in the other hand awkwardly gripped along with the knife, and a canteen hanging from a vine around my neck, bumping with every step. I think humans invented clothes so they could have belts and pockets.

Raj looked slightly more dignified, only slightly, with a bundle of fire-hardened sticks under one arm and the two flint-tipped spears in the other hand. We didn't look like any match for a cross between a manta ray and a vampire bat.

The Obelobelians were waiting for us: the old host, the female guards, and a couple of males, unarmed and smaller than the females.

"Came to wish us luck," Raj said.

"Sure." I approached the elder and lay down my bundle. Before I could deliver the standard greeting, it pointed at Raj again. "He is die," it said.

Well, it hadn't turned out to be a threat last time. A curse? A prediction? "And me?" I asked. "Am I die?"

The host stared at me for more than a minute, with a weird hunched intensity. (Now, of course, I know that it was trying to break through the static in my mind so we could really communicate.) It took a step forward and rolled its shoulders like an exotic dancer, *very* exotic, which I supposed was an Obelobelian shrug. "Not maybe, die maybe. It is...self. You must be...self." Always good advice. Go forty light years and find Polonius.

"Why are you here?" I asked.

The shrug again. "Always be for a passage here, there. Where passage be."

"You may be right," I said to Raj. "Just a cheering section." Or pallbearers, I thought and didn't say.

No one tried to interfere as we walked into the cave, and no one followed us, at least not immediately. Best not to use the flashlights, in case. Raj hadn't wanted to, anyhow—trying to duplicate as nearly as possible the native experience—but that was a quirk I would not let interfere with my survival, or even his.

Raj followed the game plan all the way down to the main cavern. We hugged the side of the cave, moving as quietly as possible. With every tiny click of a pebble, though, I felt exposed. Hard to sneak up on a blind monster that feeds by sonar.

As we squeezed into the last cavern we startled something big and white and shiny, like a maggot the size of a horse, that slid into the water and squirmed away. Wings rustled overhead.

After a moment of paralysis I mastered my fear enough to begin

lighting torches. Raj took two and sidled ahead of me, both of us keeping our backs pressed against the gritty wall. We worked backward and forward and soon had a staggered line of sixteen greasy big candles guttering in the still air.

There was enough light to see each other clearly, and I didn't care for what I saw. Raj was grinning so hard I could see both rows of white teeth in his black face, and if he was feeling anything except pure ecstasy, he was hiding it real well.

I've seen it before, of course; men getting an almost sexual thrill from the prospect of facing a dangerous animal. It's sort of amusing when you're protected by laser rifles and body armor. Not so amusing when you're naked as babies and armed with sticks and rocks. Sort of insane, actually, and I had to admit considering for the first time in a long career abandoning a client for fear he was determined to get me killed. I stayed, of course, and shouldn't have been surprised at what happened next.

I didn't actually see Raj make his move, since all my attention was concentrated on the cave ceiling, searching the murk for the humped forms of the balaseli. I couldn't see them yet, though, my eyes still dazzled from lighting and placing the candles. I wonder even now whether Raj could see more than I, or didn't care, or was tired of waiting—or did feel the same fear I did, and dealt with it in his own way.

Whatever it was, I heard a sudden shout, almost a bark, and was appalled to see Raj halfway to the water's edge, a spear in each hand, bellowing a challenge into the gloom. He was answered: a silent wisp of dark umber against the cave's blackness, suddenly behind him, drifting in at eye level—I started to shout but he had sensed it, spun around, hurled the right-hand spear with perfect accuracy. The spear struck the beast dead center with a meaty smack, and it suddenly reared back, tripling in size as its huge wings unfurled, beating the air. The teeth inside the wings glittered like thousands of diamond points. Then the other spear hit even harder, not ten centimeters from the first.

The balaseli made a strange high-pitched sound, unlike any pain cry I know, but rather like the mating challenge of a ba'albeast on Selva or the chittering of a Terran dolphin. Suddenly it seemed to contract in every dimension and then spring back to

normal size, as if flexing a huge muscle. Raj stood transfixed as the beast did this three times, meanwhile beating its wings to stay aloft. I shouted for him to come back. He ignored me, reaching down to pick up a pair of the fire-hardened sticks.

The fourth time the creature flexed, both of the spears came loose and clattered on the ground. A dark green fluid pulsed out of it as it reared back, hovering now a few meters from Raj, who had both lances braced against his sides, pointed at the beast. Then a second one dropped from the ceiling and enveloped him from behind.

It was hideous. He roared and struggled; twice, lance tips pierced though from inside. Green ichor and red blood sprayed in every direction. Then it slumped away.

For one terrible year, age nineteen, I hired out on Hell as a mercenary soldier. I saw too much but nothing I saw in that year was as bad as the sight of Raj, face intact but skin flayed off from shoulders to knees, heart and lungs exposed and guts spilling out, uncoiling; beyond mortal help but not beyond realizing what had happened. He faced me and said four clear words—one of them was "Allah" but that exhausts my Arabic—then made a strangling sound and fell over, probably dead, certainly doomed. The creature that had attacked him was writhing soundlessly on the ground. The one he had speared fell flapping, splashing, into the water.

Some basic human, or humane, instinct almost killed me then. I took a couple of steps toward him. A balaseli whispered down between me and the cave wall and enfolded me.

I must not have been in its embrace for more than a second, but that second resonates through my life like a huge bell struck once. I think it resonated backward, weeks, as well as forward, to now and however much longer I have. That's why I had been so jumpy.

Mine must have been larger than the one that killed Raj. It covered me face and all. It was like being smothered by a woolen blanket soaked in animal blood.

I froze. Thousands of tiny teeth pressed gently into my flesh, like the grains of coarse sandpaper but alive. Knife pinned uselessly between my own wrist and abdomen.

Maybe Buddha defeated Allah in this contest. I hadn't been to

kiack in twenty years, but the Way lies deep, and in what I thought was my last act as a living being, I tried to compose myself for death. The teeth pressed harder and I surrendered...

And was suddenly spilled out onto the cold wet rock, unharmed.

I rolled back to the safety of the wall, burning my calf on one of the kumalis but heedless of the pain. Calming somewhat, I was surprised to see that the creature seemed not to have harmed me beyond leaving mild abrasions all over, such as you might give yourself by scratching an itch too vigorously.

The one that had attacked me was flopping around as Raj's was; in less than a minute both were limp, dead. Alien protein, of course. There was no way they could sense our toxicity without tasting; evidently one taste was plenty. I supposed the simple creatures mistook us for Obelobelians, which triggered the aggressive behavior. The truth turned out to be somewhat stranger.

I hadn't asked Raj what was to be done with his remains, should the hunter become the quarry, but assumed he was conventionally Moslem in that regard. On Qadar the ceremony goes on for days, and a lot of the ritual involves the physical corpse.

It was an interesting problem. I'm conventionally tolerant of other people's notions, and there was the added incentive that Raj's relatives might not honor his debts with only my word that he had died. But there was no way in hell I was going to saunter out there and drag him away. Just have to wait until daylight, when the balaseli were dormant again. He would be a pretty sight in ten hours.

Something touched me on the shoulder and I almost jumped out of my aching skin. It was the old host. "I watch," it said. "He is die; you are passage."

"Guess so," I said. I did kill a balaseli, though the weapon I used was not especially heroic. Sweat.

The host solved part of my problem. It had a long looped cord that ended in a wooden hook. On the third toss, it snagged Raj behind the knee; together we were able to haul him to the wall. Carrying him out was not something I would ever care to try again. It took a long time. The host would not touch him—probably

wise—and his dead weight nearly defeated me. I collapsed twice on the passage out and again as we staggered from the cave entrance. Several of the xenologists were waiting with a pair of improvised stretchers. One of them, an older woman I hadn't seen, touched my arm and I felt a slight pinprick. All the pain washed away and I fell asleep.

I carried Raj back to Qadar frozen solid in a specimen bag. His family paid my fee in gold and had me thrown out of the house, the castle. I decided it would be prudent to leave Qadar immediately.

Odd how things sometimes come together. I had done a lot of soul-searching on the way back, and decided that I had been a hunter for far too long. The fee for this one would allow me to live prudently for several years on Selva or Thelugi, both of which had good universities for xology and animal behavior. I could finish the degrees I started twenty years ago and stop killing the things that I liked the most.

When I got back to the spaceport there was a Hartford courier waiting for me with a bright red Confederación envelope. It was a message from Dr. Avedon, the xenologist who had been so happy to see me and Raj when we showed up with our phony papers. She said that the Obelobelian tribe they were observing had refused to cooperate with anyone but me, since I was the only human who had undergone the rite of passage. Would I consider coming out to assist them for a regular consultant's fee? She wasn't enthusiastic about having any of her people go into those caves at night, for certification.

I could just see her teeth grinding as she wrote a letter of supplication to Gregorio Fuentes, heartless poacher. She probably knew that the maximum pay she could offer was less than a tenth of my normal fee. I would refuse contemptuously and they would be stuck.

Of course I did go back. I stayed on Obelobel for twenty-two years, and still return every three years for a tribal purification ceremony, which will kill me if I live long enough. That honestly is something that bothers me not at all. Not because I'm old or tired of life.

We've learned a lot from the Obelobelians, including humility. The second surprise was telepathy, which we learned through my own initiation as a host-surrogate. The first surprise was from their biochemistry, a discovery that had been in the making when Raj and I arrived there: the Obelobelians came from another planet. Their body chemistry was as alien to Obelobel as ours was—and the balaseli found them just as poisonous. The ones who survived their rite of passage did exactly as I had. The creature's flaying reflex is triggered by its prey's struggling. If you remain motionless long enough for it to reject you, you may live.

It seems cruel, by human standards, to subject the young to such an awful test. But to their way of thinking a male or female is not born until he or she comes back out of the cave; a child killed by the balaseli is a late miscarriage. To be allowed to reproduce you have to show absolute fearlessness. You have to show that you are grown.

So where did they come from, and how, and why? They are not willing to answer such questions. Able, but not willing, and anyone with a grain of objectivity about human nature would have to agree with them.

We thought it was a case of an advanced civilization dealing with childish savages who could think and communicate only at the most basic level. We were right.

A !TANGLED WEB

Your spaceport bars fall into two distinct groups: the ones for the baggage and the ones for the crew. I was baggage, this trip, but didn't feel like paying the prices that people who space for fun can afford. The Facilities Directory listed under "Food and Drink" four establishments: the Hartford Club (inevitably), the Silver Slipper Lounge, Antoine's, and Slim Joan's Bar & Grill.

I went to a currency exchange booth first, assuming that Slim Joan was no better at arithmetic than most bartenders, and cashed in a hundredth share of Hartford stock. Then I took the drop lift down to the bottom level. That the bar's door was right at the drop-lift exit would be a dead giveaway even if its name had been the Bell, Book, and Candle. Baggage don't generally like to fall ten stories, no matter how slowly.

It smelled right, stir-fry and stale beer, and the low lighting suggested economy rather than atmosphere. Slim Joan turned out to be about a hundred thousand grams of transvestite. Well, I hadn't come for the scenery.

The clientele seemed evenly mixed between humans and others, most of the aliens being !tang, since this was Morocho III. I've got nothing against the company of aliens, but if I was going to spend all next week wrapping my jaws around !tangish, I preferred to mix my drinking with some human tongue.

"Speak English?" I asked Slim Joan.

"Some," he/she/it growled. "You would drink something?" I'd never heard a Russian-Brooklyn accent before. I ordered a double saki, cold, in Russian, and took it to an empty booth.

One of the advantages of being a Hartford interpreter is that you can order a drink in a hundred different languages and dialects. Saves money; they figure if you can speak the lingo you can count your change.

I was freelancing this trip, though, working for a real-estate cartel that wanted to screw the !tangs out of a few thousand square kilometers of useless seashore property. It wouldn't stay useless, of course.

Morocho III is a real garden of a planet, but most people never see it. The tachyon nexus is down by Morocho I, which we in the trade refer to as "Armpit," and not many people take the local hop out to III (Armpit's the stopover on the Earth-Sammler run). Starlodge, Limited, was hoping to change that situation.

I couldn't help eavesdropping on the 'tangs behind me. (I'm not a snoop; it's a side effect of the hypnotic-induction learning process.) One of them was leaving for Earth today, and the other was full of useful advice. "He"—they have seven singular pronoun classes, depending on the individual's age and estrous condition—was telling "her" never to make any reference to human body odor, no matter how vile it may be. He should also have told her not to breathe on anyone. One of the by-products of their metabolism is butyl nitrite, which smells like well-aged socks and makes humans get all faint and cross-eyed.

I've worked with !tangs a few times before, and they're some of my favorite people. Very serious, very honest, and their logic is closer to human logic than most. But they are strange looking. Imagine a perambulating haystack with an elephant's trunk protruding. They have two arms under the pile of yellow hair, but it's impolite to take them out in public unless one is engaged in physical work. They do have sex in public, constantly, but it takes a zoologist with a magnifying glass to tell when.

He wanted her to bring back some Kentucky bourbon and Swiss chocolate. Their metabolism parts company with ours over proteins and fats, but they love our carbohydrates and alcohol. The alcohol has a psychedelic effect on them, and sugar leaves them

plastered.

A human walked in and stood blinking in the half-light. I recognized him and shrank back into the booth. Too late.

He strode over and stuck out his hand. "Dick Navarro!"

"Hello, Pete." I shook his hand once. "What brings you here? Hartford business?" Pete was also an interpreter.

—Oh, no, he said in Arabic. —Only journeying.

—Knock it off, I said in Serbo-Croatian. —Isn't your native language English? I added in Greek.

"Sure it is. Yours?"

"English or Spanish. Have a seat."

I smacked my lips twice at Slim Joan, and she came over with a menu. "To be eating you want?"

"Nyet," he said. "Vodka." I told her I'd take another.

"So what are you doing here?" Pete asked.

"Business."

"Hartford?"

"Nope."

"Secret."

"That's right." Actually, they hadn't said anything about its being secret. But I knew Peter Lafitte. He wasn't just passing through.

We both sat silently for a minute, listening to the 'tangs. We had to smile when he explained to her how to decide which public bathroom to use when. This was important to humans, he said. Slim Joan came with the drinks and Pete paid for both, a bad sign.

"How did that Spica business finally turn out?" he asked.

"Badly." Lafitte and I had worked together on a partition-of-rights hearing on Spica IV, with the Confederación actually bucking Hartford over an alien-rights problem. "I couldn't get the humans to understand that the minerals had souls, and I couldn't get the natives to believe that refining the minerals didn't affect their spiritual status. It came to a show of force, and the natives backed down. I wouldn't like to be there in twenty years, though."

"Yeah, I was glad to be recalled. Arcturus all over."

"That's what I tried to tell them." Arcturus wasn't a regular stop any more, not since a ship landed and found every human artistically dismembered. "You're just sightseeing?"

"This has always been one of my favorite planets."

"Nothing to do."

"Not for you city boys. The fishing is great, though."

Ah ha. "Ocean fishing?"

"Best in the Confederación."

"I might give it a try. Where do you get a boat?"

He smiled and looked directly at me. "Little coastal village. Pa'an!al."

Smack in the middle of the tribal territory I'd be dickering for. I dutifully repeated the information into my ring.

I changed the subject and we talked about nothing for a while. Then I excused myself, saying I was time-lagging and had to get some sleep. Which was true enough, since the shuttle had stayed on Armpit time, and I was eight hours out of phase with Ill. But I bounced straight to the Hartford courier's office.

The courier on duty was Estelle Dorrington, whom I knew slightly. I cut short the pleasantries. "How long to get a message to Earth?"

She studied the clocks on the wall. "You're out of luck if you want it hand-carried. I'm not going to Armpit until tomorrow. Two days on the shuttle and I'll miss the Earth run by half a day.

"If broadcast is all right, you can beam to Armpit and the courier there can take it on the Twosday run. That leaves in seventy-two minutes. Call it nineteen minutes' beam time. You know what you want to say?"

"Yeah. Set it up." I sat down at the customers' console.

STARLODGE LIMITED

642 EASTRIVER

NEW YORK, NEW YORK 100992

ATTENTION: PATRICE DUVAL

YOU MAY HAVE SOME COMPETITION HERE. NOTHING OPEN YET BUT A GUY WE CALL PETER RABBIT IS ON THE SCENE. CHECK INTERPRETERS GUILD AND SEE WHO'S PAYING PETER LAFITTE. CHANGE TERMS OF SALE? PLEASE REPLY NEXT SAMMLER RUN—RICARDO NAVARRO/RM 2048/MOROCHO HILTON

I wasn't sure what good the information would do me, unless they also found out how much he was offering and authorized me to outbid him. At any rate, I wouldn't hear for three days, earliest. Sleep.

Morocho III—its real name is !ka'al—rides a slow sweeping orbit around Morocho A, the brighter of the two suns that make up the Morocho system (Morocho A is a close double star itself, but its white dwarf companion hugs so close that it's lost in the glare). At this time of day, Morocho B was visible low in the sky, a hard blue diamond too bright to stare at, and A was right overhead, a bloated golden ball. On the sandy beach below us the flyer cast two shadows, dark blue and faint yellow, which raced to come together as we landed.

Pa'an'al is a fishing village thousands of years old, on a natural harbor formed where a broad jungle river flows into the sea. Here on the beach were only a few pole huts with thatched roofs, where the fishers who worked the surf and shallow pools lived. Pa'an'al proper was behind a high stone wall, which protected it on one side from the occasional hurricane and on the other from the interesting fauna of the jungle.

I paid off my driver and told him to come back at second sundown. I took a deep breath and mounted the steps. There was an open-cage Otis elevator beside the stairs, but people didn't use it, only fish.

The !tang are compulsive about geometry. This wall was a precise 1:2 rectangle, and the stairs mounted from one corner to the opposite in a satisfyingly Euclidean 30 degrees. A guardrail would have spoiled the harmony. The stairs were just wide enough for two !tang to pass, and the rise of each step was a good half meter. By the time I got to the top I was both tired and slightly terrified.

A spacefaring man shouldn't be afraid of heights, and I'm not, so long as I'm in a vehicle. But when I attained the top of the wall and looked down the equally long and perilous flight of stairs to ground level, I almost swooned. Why couldn't they simply have left a door in the wall?

I sat there for a minute and looked down at the small city. The geometric regularity *was* pleasing. Each building was either a cube or a stack of cubes, and the rock from which the city was built had been carefully sorted, so that each building was a uniform shade. They went from white marble through sandy yellow and

salmon to pearly gray and obsidian. The streets were a regular matrix of red brick. I walked down, hugging the wall.

At the bottom of the steps a !tang sat on a low bench, watching the nonexistent traffic. —Greetings, I clicked and snorted at him. —It certainly is a pleasant day.

—Not everywhere, he grunted and wheezed back. An unusually direct response.

—Are you waiting for me?

—Who can say? I am waiting. His trunk made a philosophical circle in the air. —If you had not come, who knows for what I would have been waiting?

—Weil, that's true. He made a circle in the other direction, which I think meant What else? I stood there for a minute while he looked at me or the ground or the sky. You could never tell.

—I hope this isn't a rude question, he said. —Will you forgive me if this is a rude question?

—I certainly will try.

—Is your name lica'o *valo?

That was admirably close. —It certainly is.

—You could follow me. He got up. —Or enjoy the pleasant day.

I followed him closely down the narrow street. If he got in a crowd I'd lose him for sure. I couldn't tell an estrus-four female from a neuter, not having sonar (they tell each other apart by sensing body cavities, very romantic).

We went through the center of town, where the well and the market square were. A few dozen !tang bargained over food, craft items, or abstractions. They were the most mercantile race on the planet, although they had sidestepped the idea of money in favor of labor equivalence: for those two ugly fish I will trade you an original sonnet about your daughter and three vile limericks for your next affinity-group meeting. Four limericks, tops.

We went into a large white building that might have been City Hall. It was evidently guarded, at least symbolically, since two !tang stood by the door with their arms exposed.

It was a single large room similar to a Terran mosque, with a regular pattern of square columns holding up the ceiling. The columns supported shelving in neat squares, up to about two meters; on the shelves were neat stacks of accordion-style books.

Although the ceiling had inset squares of glass that gave adequate light, there was a strong smell of burnt fish oil, which meant the building was used at night. (We had introduced them to electricity, but they used it only for heavy machinery and toys.)

The Itang led me to the farthest corner, where a large haystack was bent over a book, scribbling. They had to read or write with their heads a few centimeters from the book, since their light eyes were only good for close work.

—It has happened as you foretold, Uncle.

Not too amazing a prophecy, as I'd sent a messenger over yesterday.

Uncle waved his nose in my direction. —Are you the same one who came four days ago?

—No. I have never been to this place. I am Ricardo Navarro, from the Starlodge tribe.

—I grovel in embarrassment. Truly it is difficult to tell one human from another. To my poor eyes you look exactly like Peter Lafitte.

(Peter Rabbit is bald and ugly, with terrible ears. I have long curly hair with only a trace of gray, and women have called me attractive.) —Please do not be embarrassed. This is often true when different peoples meet. Did my brother say what tribe he represented?

—I die. O my hair falls out and my flesh rots and my bones are cracked by the hungry ta!a'an. He drops me behind him all around the forest and nothing will grow where his excrement from my marrow falls. As the years pass the forest dies from the poison of my remains. The soil washes into the sea and poisons the fish, and all die. O the embarrassment.

—He didn't say?

—He did but said not to tell you.

That was that. —Did he by some chance say he was interested in the small morsel of land I mentioned to you by courier long ago?

No, he was not interested in the land.

—Can you tell me what he was interested in?

—He was interested in *buying* the land.

Verbs. —May I ask a potentially embarrassing question?

He exposed his arms. —We are businessmen.

—What were the terms of his offer?

—I die. I breathe in and breathe in and cannot exhale. I explode all over my friends. They forget my name and pretend it is dung. They wash off in the square and the well becomes polluted. All die. O the embarrassment.

—He said not to tell me?

—That's right.

—Did you agree to sell him the land?

—That is a difficult question to answer.

Let me rephrase the question: is it possible that you might sell the land to my tribe?

—It is possible, if you offer better terms. But only possible, in any case.

—This is embarrassing. I, uh, die and, um, the last breath from my lungs is a terrible acid. It melts the seaward wall of the city and a hurricane comes and washes it away. All die. O the embarrassment.

—You're much better at that than he was.

—Thank you. But may I ask you to amplify as to the possibility?

—Certainly. Land is not a fish or an elevator. Land is something that keeps you from falling all the way down. It gives the sea a shore and makes the air stop. Do you understand?

—So far. Please continue.

—Land is time, but not in a mercantile sense. I can say "In return for the time it takes me to decide which one of you is the guilty party, you must give me such-and-so." But how can I say "In return for the land I am standing on you must give me this-and-that"? Nobody can step off the time, you see, but I can step off the land, and then what is it? Does it even exist? In a mercantile sense? These questions and corollaries to them have been occupying some of our finest minds ever since your courier came long ago.

—May I make a suggestion?

—Please do. Anything might help.

—Why not just sell it to the tribe that offers the most?

—No, you don't see. Forgive me, you Terrans are very simpleminded people, for all your marvelous Otis elevators and starships (this

does not embarrass me to say because it is meant to help you understand yourself; if you were !tang you would have to pay for it). You see, there are three mercantile classes. Things and services may be of no worth, of measurable worth, or of infinite worth. Land has never been classified before, and it may belong in any of the categories.

—But Uncle! The Lafitte and I have offered to buy the land. Surely that eliminates the first class.

—O you poor Terran. I would hate to see you try to buy a fish. You must think of all the implications.

—I die. I, uh, have a terrible fever in my head and it gets hotter and hotter until my head is a fire, a forge, a star. I set the world on fire and everybody dies. O the embarrassment. What implications?

—Here is the simplest. If the land has finite value, when at best all it does is keep things from falling all the way down, how much is air worth? Air is necessary for life, and it makes fires burn. If you pay for land do you think we should let you have air for free?

—An interesting point, I said, thinking fast and !tangly. —But you have answered it yourself. Since air is necessary for life, it is of infinite value, and not even one breath can be paid for with all the riches of the universe.

—O poor one, how can you have gotten through life without losing your feet? Air would be of infinite worth thus only if *life* were of infinite worth, and even so little as I know of your rich and glorious history proves conclusively that you place very little value on life. Other people's lives, at any rate. Sad to say, our own history contains a similarly bonehungry period.

—Neither are we that way now, Uncle.

—I die. My brain turns to maggots . .

I talked with Uncle for an hour or so but got nothing out of it save a sore soft palate. When I got back to the hotel there was a message from Peter Lafitte, asking whether I would like to join him at Antoine's for dinner. No, I would not *like* to, but under the circumstances it seemed prudent. I had to rent a formal tunic from the bellbot.

Antoine's has all the *joie de vivre* of a frozen halibut, which

puts it on a par with every other French restaurant off Earth. We started with an artichoke vinaigrette that should have been left to rot in the hydroponics tank. Then a filet of "beef" from some local animal that I doubt was even warm-blooded. All this served by a waiter who was a Canadian with a fake Parisian accent.

But we also had a bottle of phony Pouilly-Fuissé followed by a bottle of ersatz Burgundy followed by a bottle of synthetic Château-d'Yquem. Then they cleared the table and set a bottle of brandy between us, and the real duel began. Short duel, it turned out.

"So how long is your vacation going to last?" I made a gesture that was admirably economical. "Not long at these prices."

"Well, there's always Slim Joan's." He poured himself a little brandy and me a lot. "How about yourself?"

"Ran into a snag," I said. "Have to wait until I hear from Earth."

"They're not easy to work with, are they?"

"Terrans? I'm one myself."

"The !tang, I mean." He stared into his glass and swirled the liquor. "Terrans as well, though. Could I set to you a hypothetical proposition?"

"My favorite kind," I said. The brandy stung my throat.

"Suppose you were a peaceable sort of fellow."

"I am." Slightly fuzzy, but peaceable.

"And you were on a planet to make some agreement with the natives."

I nodded seriously.

"Billions of bux involved. Trillions."

"That would really be something," I said.

"Yeah. Now further suppose that there's another Terran on this planet who, uh, is seeking to make the same sort of agreement."

"Must happen all the time."

"For trillions, Dick? Trillions?"

"Hypothetical trillions." Bad brandy, but strong.

"Now the people who are employing you are ab-solute-ly ruthless."

"Ma'tyso'ta," I said, the !tang word for "bonehungry." Close to it, anyhow.

"That's right." He was starting to blur. More wine than I'd

thought. "Stop at nothing. Now how would you go about warning the other Terran?"

My fingers were icy cold and the sensation was crawling toward my elbows. My chin slipped off my hand and my head was so heavy I could hardly hold it up. I stared at the two fuzzy images across the table. "Peter." The words came out slowly, and then not at all: "You aren't drinking..."

"Terrible brandy, isn't it." My vision went away, although it felt as if my eyes were still open. I heard my chin hit the table.

"Waiter?" I heard the man come over and make sympathetic noises. "My friend has had a little too much to drink. Would you help me get him to the bellbot?" I couldn't even feel them pick me up. "I'll take this brandy. He might want some in the morning." Jolly.

I finally lapsed into unconsciousness while we were waiting for the elevator, the bellbot lecturing me about temperance.

I woke up the next afternoon on the cold tile floor of my suite's bathroom. I felt like I had been taken apart by an expert surgeon and reassembled by an amateur mechanic. I looked at the tile for a long time. Then I sat for a while and studied the interesting blotches of color floating between my eyes and my brain. When I thought I could survive it, I stood up and took four Hangaways.

I sat and started counting. Hangaways hit you like a pile driver. At eighty the adrenaline shock came. Tunnel vision and millions of tiny needles being pushed out through your skin. Rivers of sweat. Cathedral bells tolling, your head the clapper. Then the dry heaves and it was over.

I staggered to the phone and ordered some clear soup and a couple of cold beers. Then I stood in the shower and contemplated suicide. By the time the soup came I was contemplating homicide.

The soup stayed down and by the second beer I was feeling almost human. Neanderthal, anyhow. I made some inquiries. Lafitte had checked out. No shuttle had left, so he was either still on the planet or he had his own ship, which was possible if he was working for the outfit I suspected he was working for. I invoked the holy name of Hartford, trying to find out to whom his expenses had been billed. Cash.

I tried to order my thoughts. If I reported Lafitte's action to the Guild he would be disbarred. Either he didn't care, because They were paying him enough to retire in luxury—for which I knew he had a taste—or he actually thought I was not going to get off the planet alive. I discarded the dramatic second notion. Last night he could have more easily killed me than warned me. Or had he actually *tried* to kill me, the talk just being insurance in case I didn't ingest a fatal dose? I had no idea what the poison could have been. That sort of knowledge isn't relevant to my line of work.

I suppose the thoroughly rational thing would have been to sit tight and let him have the deal. The fortunes of Starlodge were infinitely less important to me than my skin. He could probably offer more than I, anyhow.

The phone chimed. I thumbed the vision button and a tiny haystack materialized over the end table.

—Greetings. How is the weather?

—Indoors, it's fine. Are you Uncle?

—Not now. Inside the Council Building I am Uncle.

—I see. Can I perform some worthless service for you?

—For yourself, perhaps.

—Pray continue.

—Our Council is meeting with the Lafitte this evening, with the hope of resolving this question about the mercantile nature of land. I would be embarrassed if you did not come too. The meeting will be at *ala'ang in the Council Building.

I would not cause you embarrassment. But could it possibly be postponed?

He exposed his arms. We are meeting.

He disappeared and I spent a few minutes translating *ala'ang into human time. The !tang divide their day into a complicated series of varying time intervals depending on the position of the suns and state of appetite and estrous condition. Came to a little before ten o'clock, plenty of time.

I could report Lafitte, and probably should, but decided I'd be safer not doing so, retaining the threat of exposure for use as a weapon. I wrote a brief description of the situation—and felt a twinge of fear on writing the word "Syndicate"—and sealed it in

an envelope. I wrote the address of the Hartford Translators' Guild across the seal and bounced up to the courier's office.

Estelle Dorrington stared at me when I walked into the office. "Ricardo! You look like a corpse warmed over."

"Rough night," I said. "Touch of food poisoning."

"I never eat that Tang stuff."

"Good policy." I set the envelope in front of her. "I'm not sure whether to send this or not. If I don't come get it before the next shuttle, take it to Armpit and give it to the next Earth courier."

She nodded slowly and read the address. "Why so mysterious?"

"Just a matter of Guild ethics. I wanted to write it down while it was still fresh. Uh..." I'd never seen a truly penetrating stare before. "But I might have more information tonight that would invalidate it."

"If you say so, Ricardo." She slipped the envelope into a drawer. I backed out, mumbling something inane.

Down to Slim Joan's for a sandwich of stir-fried vegetables in Syrian bread. Slightly rancid and too much curry, but I didn't dare go to the Council meeting on an empty stomach; !tang sonar would scan it and they would make a symbolic offer of bread, which couldn't be refused. Estelle was partly right about "Tang" food: one bite of the bread contained enough mescaline to make you see interesting things for hours. I'd had enough of that for a while.

I toyed with the idea of taking a weapon. There was a rental service in the pharmacy, to accommodate the occasional sporting type, and I could pick up a laser or a tranquilizer there. But there would be no way to conceal it from the !tang sonar. Besides, Lafitte wasn't the kind of person who would employ direct violence.

But if it actually were the Syndicate behind Lafitte, they might well have sent more than one person here; they certainly could afford it. A hitter. But then why would Lafitte set up the elaborate poisoning scene? Why not simply arrange an accident?

My feet were taking me toward the pharmacy. Wait. Be realistic. You haven't fired a gun in twenty years. Even then, you couldn't hit the ground with a rock. If it came to a burnout, you'd

be the one who got crisped. Better to leave their options open.

I decided to compromise. There was a large clasp knife in my bag; that would at least help me psychologically. I went back up to my room.

I thumbed the lock and realized that the cube I'd heard playing was my own. The door slid open and there was Lafitte, lounging on my sofa, watching an old movie.

"Dick. You're looking well."

"How the hell did you get in here?"

He held up his thumb and stripped a piece of plastic off the fleshy part. "We have our resources." He sat up straight. "I hear you're taking a flyer out to Pa'an'al. Shall we divide the cost?"

There was a bottle of wine in a bucket of ice at his feet. I got a glass out of the bathroom and helped myself. "I suppose you charged this to my room." I turned off the cube

He shrugged. "You poked me for dinner last night, *mon frère*. Passing out like that."

I raised the glass to my lips, flinched, and set it down untouched. "Speaking of resources, what was in that brandy? And who are these resourceful friends?"

"The wine's all right. You seemed agitated; I gave you a calmative."

"A horse calmative! Is it the Syndicate?"

He waved that away. "The Syndicate's a myth. You "

"Don't take me for an idiot. I've been doing this for almost as long as you have " Every ten years or so there was a fresh debunking. But the money and bodies kept piling up.

"You have indeed " He concentrated on picking at a hangnail. "How much is Starlodge willing to pay?"

I tried not to react. "How much is the Syndicate?"

"If the Syndicate existed," he said carefully, "and if it were they who had retained me, don't you think I would try to use that fact to frighten you away?"

"Maybe not directly. Last night, you said 'desperate men.' "

"I was drunk." No, not Peter Rabbit, not on a couple of bottles of wine. I just looked at him. "All right," he said, "I was told to use any measures short of violence—"

"Poisoning isn't violence?"

"Tranquilizing, not poisoning. You couldn't have died." He poured himself some wine. "Top yours off?"

"I've become a solitary drinker."

He poured the contents of my glass into his. "I might be able to save you some trouble, if you'll only tell me what terms—"

"A case of Jack Daniels and all they can eat at Slim Joan's."

"That might do it," he said unsmilingly, "but I can offer fifteen hundred shares of Hartford."

That was \$150 million, half again what I'd been authorized. "Just paper to them."

"Or a million cases of booze, if that's the way they want it." He checked his watch. "Isn't our flyer waiting?"

I supposed it would be best to have him along, to keep an eye on him. "The one who closes the deal pays for the trip?"

"All right."

On the hour-long flyer ride I considered various permutations of what I could offer. My memory had been jammed with the wholesale prices of various kinds of machinery, booze, candy, and so forth, along with their mass and volume, so I could add in the shipping costs from Earth to Armpit to Moroch III. Lafitte surely had similar knowledge; I could only hope that his figure of 1500 shares was a bluff.

(I had good incentive to bargain well. Starlodge would give me a bonus of up to 10 percent of the difference between a thousand shares and whatever the settlement came to. If I brought it in at 900, I'd be a millionaire.)

We were turning inland, the walls of the city made a pink rectangle against the towering jungle. I tapped the pilot on the shoulder. "Can you land inside the city?"

"Not unless you want to jump from the top of a building. I can set you on the wall, though." I nodded.

"Can't take the climb, Dick? Getting old?"

"No need to waste steps." The flyer was a little wider than the wall, and it teetered as we stepped out. I tried to look just at my feet.

"Beautiful from up here," Lafitte said. "Look at that sunset." Half the large sun's disk was visible on the jungle horizon, a

deeper red than Earth's sun ever shone. The bloody light stained the surf behind us purple. It was already dark in the city below; the smell of rancid fish oil burning drifted up to us.

Lafitte managed to get the inside lane of the staircase. I tried to keep my eyes on him and the wall as we negotiated the high steps.

"Believe me," he said (a phrase guaranteed to inspire trust), "it would make both our jobs easier if I could tell you who I'm representing. But I really am sworn to secrecy."

An oblique threat deserves an oblique answer "You know I can put you in deep trouble with the Standards Committee. Poisoning a Guild brother."

"Your word against mine. And the bellbot's, the headwaiter's, the wine steward's...you did have quite a bit to drink."

"A couple of bottles of wine won't knock me out."

"Your capacity is well known. I don't think you want a hearing investigating it, though, not at your age. Two years till retirement?"

"Twenty months."

"I was rounding off," he said "Yes, I did check. I wondered whether you might be in the same position as I am. My retirement's less than two months away; this is my last big-money job. So you must understand my enthusiasm."

I didn't answer. He wasn't called Rabbit for lack of "enthusiasm."

As we neared the bottom, he said, "Suppose you weren't to oppose me too vigorously. Suppose I could bring in the contract at a good deal less than—"

"Don't be insulting."

In the dim light from the torches sputtering below, I couldn't read his expression. "Ten percent of my commission wouldn't be insulting."

I stopped short; he climbed down another step. "I can't believe even you—"

"*Verdad*. Just joking." He laughed unconvincingly. "Everyone knows how starchy you are, Dick. I know better than most." I'd fined him several times during the years I was head of the Standards Committee.

We walked automatically through the maze of streets, our guides evidently having taken identical routes. Both of us had eidetic memories, of course, that being a minimum prerequisite for the job of interpreter. I was thinking furiously. If I couldn't out-bargain the Rabbit I'd have to somehow finesse him. Was there anything I knew about the 'tang value system that he didn't? Assuming that this council would decide that land was something that could be bought and sold.

I did have a couple of interesting proposals in my portfolio, that I'd written up during the two-week trip from Earth. I wondered whether Lafitte had seen them. The lock didn't appear to have been tampered with, and it was the old-fashioned magnetic key type. You can pick it but it won't close afterward.

We turned a corner and there was the Council Building at the end of the street, impressive in the flickering light, its upper reaches lost in darkness. Lafitte put his hand on my arm, stopping. "I've got a proposition."

"Not interested."

"Hear me out, now; this is straight. I'm empowered to take you on as a limited partner."

"How generous. I don't think Starlodge would like it."

"What I *mean* is Starlodge. You hold their power of attorney, don't you?"

"Unlimited, on this planet. But don't waste your breath; we get an exclusive or nothing at all." Actually, the possibility had never been discussed. They couldn't have known I was going into a competitive bidding situation. If they had, they certainly wouldn't have sent me here slow freight. For an extra fifty shares I could have gone first class and been here a week before Peter Rabbit could have sewn up the thing and been headed home before he got to Armpit.

Starlodge had a knack for picking places that were about to become popular—along with impressive media power, to make sure they did—and on dozens of worlds they did have literally exclusive rights to tourism. Hartford might own a spaceport hotel, but it wasn't really competition, and they were usually glad to hand it over to Starlodge anyhow. Hartford, with its ironclad lock on the tachyon drive, had no need to diversify.

There was no doubt in my mind that this was the pattern Starlodge had in mind for Morocho III. It was a perfect setup, the beach being a geologic anomaly: there wasn't another decent spot for a hotel within two thousand kilometers of the spaceport. Just bleak mountain tops sprouting occasionally out of jungles full of large and hungry animals. But maybe I could lead the Rabbit on. I leaned up against a post that supported a guttering torch. "At any rate, I certainly couldn't consider entering into an agreement without knowing who you represent."

He looked at me stone-faced for a second. "Outfit called A. W. Stoner Industries."

I laughed out loud. "Real name, I mean." I'd never heard of Stoner, and I do keep in touch.

"That's the name I know them by."

"No concern not listed in *Standard, Poor and Tueme* could come up with nine figures for extraterrestrial real-estate speculation. No legitimate concern, I mean."

"There you go again," he said mildly. "I believe they're a coalition of smaller firms."

"I don't. Let's go."

Back in my luggage I had a nasal spray that deadened the sense of smell. Before we even got inside, I knew I should have used it.

The air was gray with fish-oil smoke, and there were more than a hundred Itang sitting in neat rows. I once was treated to a "fish kill" in Texas, where a sudden ecological disaster had resulted in windrows of rotting fish piled up on the beach. This was like walking along that beach using an old sock for a muffler. By Lafitte's expression, he was also unprepared. We both walked forward with slightly greenish cheerfulness.

A Itang in the middle of the first row stood up and approached us. "Uncle? I ventured, and he waved his snout in affirmation.

We have come to an interim decision, he said.

—Interim? Lafitte said. —Were my terms unacceptable?

—I die. My footprints are cursed. I walk around the village not knowing that all who cross where I have been will stay in estrous zero, and bear no young. Eventually, all die. O the embarrassment. We want to hear the terms of Navarro's tribe. Then perhaps

a final decision may be made.

That was frighteningly direct. I'd tried for an hour to tell him our terms before, but he'd kept changing the subject.

—May I hear the terms of Lafitte's tribe? I asked.

—Certainly. Would Lafitte care to state them, or should I?

—Proceed, Uncle, Lafitte said, and then, in Spanish, —Remember the possibility of a partnership. If we get to haggling...

I stopped listening to Rabbit as Uncle began a long litany of groans, creaks, pops, and whistles. I kept a running total of wholesale prices and shipping costs. Bourbon, rum, brandy, gin. Candy bars, raw sugar, honey, pastries. Nets, computers, garbage composters, water-purifying plant, hunting weapons. When he stopped, I had a total of only H620.

—Your offer, Navarro? Could it include these things as a subset?

I had to be careful. Lafitte was probably lying about the 1500, but I didn't want to push him so hard he'd be able to go over a thousand on the next round. And I didn't want to bring out my big guns until the very end.

—I can offer these things and three times the specified quantity of rum—(the largest rum distillery on Earth was a subsidiary of Starlodge) —and furthermore free you from the rigors of the winter harvest, with twenty-six fully programmed mechanical farm laborers. (The winters here were not even cool by Earth standards, but something about the season made the local animals restless enough occasionally to jump over the walls that normally protected farmland.)

These mechanical workers would not be good to eat? For the animals?

—No, and they would be very hard for the animals even to damage.

There was a lot of whispered conversation. Uncle conferred with the Itang at the front of each row, then returned.

—I die. Before I die my body turns hair-side-in. People come from everywhere to see the insides of themselves. But the sight makes them lose the will, and all die. O the embarrassment. The rum is welcome, but we cannot accept the mechanical workers. When the beast eats someone he sleeps, and can be killed, and

eaten in turn. If he does not eat he will search, and in searching destroy crops. This we know to be true.

—Then allow me to triple the quantities of gin, bourbon, and brandy. I will add two tonnes each of vermouth and hydrochloric acid, for flavoring. (That came to about H710.)

—This is gratefully accepted. Does your tribe, Lafitte, care to include these as a subset of your final offer?

—Final offer, Uncle?

—Two legs, two arms, two eyes, two mouths, two offers.

—I die, Lafitte said. —Where they bury me, the ground caves in. It swallows up the city and all die, O the embarrassment. Look, Uncle, that's the market law for material objects. You can't move land around; its ownership is an abstraction.

Uncle exposed one arm—the Council tittered—and reached down and thumped the floor twice. —The land is solid, therefore material. You can move it around with your machines; I myself saw you do this in my youth, when the spaceport was built. The market law applies.

Lafitte smiled slowly. —Then the Navarro's tribe can no longer bid. He's had two.

Uncle turned to the Council and gestured toward Rabbit, and said. Is he standing on feet? And they cracked and snuffled at the joke. To Lafitte, he said, —The Navarro's offer was rejected, and he made a substitution. Yours was not rejected. Do you care to make his amended offer a subset of yours?

—If mine is rejected, can I amend it?

This brought an even louder reaction. —Poor one, Uncle said. —No feet, no hands. That would be a third offer. You must see that.

All right, Lafitte began pacing. He said he would start with my amended offer and add the following things. The list was very long. It started with a hydroelectric generator and proceeded with objects of less and less value until he got down to individual bottles of exotic liqueurs. By then I realized he was giving me a message: he was coming down as closely as he could to exactly a thousand shares of Hartford. So we both had the same limit. When he finished he looked right at me and raised his eyebrows.

Victory is sweet. If the Rabbit had bothered to spend a day or

two in the marketplace, watching transactions, he wouldn't have tried to defeat me by arithmetic; he wouldn't have tried by accretion to force me into partnership.

Uncle looked at me and bared his arms for a split second. — Your tribe, Navarro? Would you include this offer as a subset of your final offer?

What Rabbit apparently didn't know was that this bargaining by pairs of offers was a formalism: if I did simply add to his last offer, the haggling would start over again, with each of us allowed another pair. And so on and on. I unlocked my briefcase and took out two documents

—No. I merely wish to add two inducements to my own previous offer (sounds of approval and expectation).

Lafitte stared, his expression unreadable.

—These contracts are in Spanish. Can you read them, Uncle?

—No, but there are two of us who can.

—I know how you like to travel. (I handed him one of the documents.) —This allows each of five hundred 'tang a week's vacation on the planet of its choice, any planet where Starlodge has facilities.

"What?" Lafitte said, in English. "How the hell can you do that?"

"Deadheading," I said.

One of the Council abruptly rose. "Pardon me," he said in a weird parody of English. "We have to be dead to take this vacation? That seems of little value."

I was somewhat startled at that, in view of the other inducement I was going to offer. I told him it was an English term that had nothing to do with heads or death. —Most of the Hartford vessels that leave this planet are nearly empty. It is no great material loss to Hartford to take along nonpaying guests, so long as they do not displace regular passengers. And Hartford will ultimately benefit from an increase in tourism to 'ka'al, so they were quite willing to make this agreement with my tribe.

—The market value of this could be quite high, Uncle said.

—As much as five or six hundred shares, I said, —depending on how distant each trip is.

—Very well. And what is your other inducement?

—I won't say. (I had to grin) —It is a gift.

The Council chattered and tweeted in approval. Some even exposed their arms momentarily in a semi-obscene gesture of fellowship. "What kind of game are you playing?" Peter Rabbit said.

"They like surprises and riddles." I made a polite sound requesting attention and said, —There is one thing I will tell you about this gift: It belongs to all three mercantile classes. It is of no value, of finite value, and infinite value, all at once, and to all people.

—When considered as being of finite value, Uncle said, —how much is it worth in terms of Hartford stock?

—Exactly one hundred shares

He rustled pleasantly at that and went to confer with the others.

"You're pretty clever, Dick," Rabbit said. "What, they don't get to find out what the last thing is unless they accept?"

"That's right. It's done all the time; I was rather surprised that you didn't do it."

He shook his head. "I've only negotiated with Itang off-planet. They've always been pretty conventional."

I didn't ask him about all the fishing he had supposedly done here. Uncle came back and stood in front of us

—There is unanimity. The land will go to the Navarro's tribe. Now what is the secret inducement, please? How can it be every class at once, to all people?

I paused to parse out the description in Itangish. —Uncle, do you know of the Earth corporation, or tribe, Immortality Unlimited?

—No.

Lafitte made a strange noise. I went on. —This Immortality Unlimited provides a useful service to humans who are apprehensive about death. They offer the possibility of revival. A person who avails himself of this service is frozen solid as soon as possible after death. The tribe promises to keep the body frozen until such time as science discovers a way to revive it.

—The service is expensive. You pay the tribe one full share of Hartford stock. They invest it, and take for themselves one tenth

of the income, which is their profit. A small amount is used to keep the body frozen. If and when revival is possible, the person is thawed, and cured of whatever was killing him, and he will be comparatively wealthy.

—This has never been done with nonhumans before, but there is nothing forbidding it. Therefore I purchased a hundred "spaces" for Tang; I leave it to you to decide which hundred will benefit.

—You see, this is of no material value to any living person, because you must die to take advantage of it. However, it is also of finite worth, since each space costs one share of Hartford. It is also of infinite worth, because it offers life beyond death.

The entire Council applauded, a sound like a horde of locusts descending. Peter Rabbit made the noise for attention, and then he made it again, impolitely loud.

—This is all very interesting, and I do congratulate the Navarro for his cleverness. However, the bidding is not over.

There was a low, nervous whirring. "Better apologize first, Rabbit," I whispered.

He bulled ahead. —Let me introduce a new mercantile class: negative value.

"Rabbit, don't—"

—This is an object or service that one does *not* want to have. I will offer not to give it to you if you accept my terms rather than the Navarro's.

—Many kilometers up the river there is a drum full of a very powerful poison. If I touch the button that opens it, all of the fish in the river, and for a great distance out into the sea, will die. You will have to move or... He trailed off.

One by one, single arms snaked out, each holding a long sharp knife.

"Poison again, Rabbit? You're getting predictable in your old age."

"Dick," he said hoarsely, "they're completely nonviolent. Aren't they?"

"Except in matters of trade." Uncle was the last one to produce a knife. They moved toward us very slowly. "Unless you do something fast, I think you're about to lose your feet."

"My God! I thought that was just an expression."

"I think you better start apologizing. Tell them it was a joke."

—I die! he shouted, and they stopped advancing. —I, um...

—You play a joke on your friends and it backfires, I said in Greek.

Rapidly: —I play a joke on my good friends and it backfires. I, uh... "Christ, Dick, help me."

"Just tell the truth and embroider it a little. They know about negative value, but it's an obscenity."

I was employed by... a tribe that did not understand mercantilism. They asked me, of all things, to introduce terms of negative value into a trivial transaction. My friends know I must be joking and they laugh. They laugh so much they forget to eat. All die. O the embarrassment.

Uncle made a complicated pass with his knife and it disappeared into his haybale fur. All the other knives remained in evidence, and the 'tang moved into a circle around us.

This machine in your pocket, Uncle said, it is part of the joke?

Lafitte pulled out a small gray box. —It is. Do you want it?

—Put it on the floor. The fun would be complete if you stayed here while the Navarro took one of your marvelous floaters up the river. How far would he have to go to find the rest of the joke?

—About twelve kilometers. On an island in midstream.

Uncle turned to me and exposed his arms briefly. —Would you help us with our fun?

The air outside was sweet and pure. I decided to wait a few hours, for light.

That was some years ago, but I still remember vividly going into the Council Building the next day. Uncle had divined that Peter Rabbit was getting hungry, and they'd filled him up with !tang bread. When I came in, he was amusing them with imper sonations of various Earth vegetables. The effect on his metabolism was not permanent, but when he left Morocho III he was still having mild attacks of cabbageness.

By the time I retired from Hartford, Starlodge had finished its hotel and sports facility on the beach. I was the natural choice to manage it, of course, and though I was wealthy enough not to

need employment. I took the job with enthusiasm.

I even tried to hire Lafitte as an assistant—people who can handle !tangish are rare—but he had dropped out of sight. Instead, I found a young husband-and-wife team who have so much energy that I hardly have to work at all.

I'm not crazy enough to go out in the woods, hunting. But I do spend a bit of time fishing off the dock, usually with Uncle, who has also retired. Together we're doing a book that I think will help our two cultures understand one another. The human version is called *Hard Bargain*.

Seasons

Transcripts edited from the last few hundred hours of recordings:

Maria

Forty-one is too young to die. I was never trained to be a soldier. Trained to survive, yes, but not to kill or be killed.

That's the wrong way to start. Let me start this way.

As near as I can reckon, it's mid-noviembre, AC238. I am Maria Rubera, chief xenologist for the second Confederación expedition to Sanchrist IV. I am currently standing guard in the mouth of a cave while my five comrades try to sleep. I am armed with a stone axe and flint spear and a pile of rocks for throwing. A cold rain is misting down, and I am wearing only a stiff kilt and vest of wet rank fur. I am cold to the very heart but we dare not risk a fire. The Plathys have too acute a sense of smell.

I am subvocalizing, recording this into my artificial bicuspid, one of which each of us has; the only post-Stone Age artifacts in this cave. It may survive even if, as is probable, I do not. Or it may not survive. The Plathys have a way of eating animals head first, crunching up skull and brain while the decapitated body writhes at their feet or staggers around, which to them is high humor. Innocent humor but ghastly. I almost came to love them. Which

is not to say I understand them.

Let me try to make this document as complete as possible. It gives me something to do. I trust you have a machine that can filter out the sound of my teeth chattering. For a while I could do the Zen trick to keep my teeth still. But I'm too cold now. And too certain of death, and afraid.

My specialty is xenology but I do have a doctorate in historicultural anthropology, which is essentially the study of dead cultures through the writings of dead anthropologists. In the nineteenth and twentieth centuries, old style, there were dozens of isolated cultures still existing without metals or writing or even, in some cases, agriculture or social organization beyond the family. None of them survived more than a couple of generations beyond their contact with civilization, but civilization by then could afford the luxury of science, and so there are fairly complete records. The records are fascinating not only for the information about the primitives, but also for what they reveal of the investigating cultures' unconscious prejudices. My own specialties were the Maori and Eskimo tribes, and (by necessary association) the European and American cultures that investigated and more or less benignly destroyed them.

I will try not to stray from the point. That training is what led to my appointment as leader of this band of cold, half-naked, probably doomed, pseudo-primitive scientists. We do not repeat the errors of our forebears. We come to the primitives on equal terms, now, so as not to contaminate their habit patterns by superior example. No more than is necessary. Most of us do not bite the heads off living animals or exchange greetings by the tasting of excrement.

Saying that and thinking of it goads me to go down the hill again. We designated a latrine rock a few hundred meters away, in sight of the cave entrance but with no obvious path leading here, to throw them off our scent at least temporarily. I will not talk while going there. They also have acute hearing.

Back. Going too often and with too little result. Diet mostly raw meat in small amounts. Only warm place on my body is the hot and itching anus. No proper hygiene in the Stone Age. Just find a smooth rock. I can feel my digestive tract flourishing with worms

and bugs. No evidence yet, though, nor blood. Carlos Fleming started passing blood, and two days later something burst and he died in a rush of it. We covered his body with stones. Ground too frozen for grave digging. He was probably uncovered and eaten.

It can't be the diet. On Earth I paid high prices for raw meat and fish and never suffered except in the wallet. I'm afraid it may be a virus. We all are, and we indulge in discreet copromancy, the divining of future events through the inspection of stools. If there is blood your future will be short.

Perhaps it was stress. We are under unusual stress. But I stray.

It was specifically my study of Eskimos that impressed the assigning committee. Eskimos were small bands of hearty folk who lived in the polar regions of North America. Like the Plathys, they were anagricultural carnivores, preying on herds of large animals, sometimes fishing. The Plathys have no need for the Eskimos' fishing skills, since the sea teems with life edible and stupid. But they prefer red meat and the crunch of bone, the chewy liver and long suck of intestinal contents, the warm mush of brains. They are likable but not fastidious. And not predictable, we learned to our grief.

Like the Eskimos, the Plathys relish the cold and become rather dull and listless during the warm season. Sanchrist IV has no axial tilt, thus no "seasons" in the Terran sense, but its orbit is highly elongated, so more than two thirds of its year (three and a half Terran years) is spent in cold. We identified six discrete seasons: spring, summer, fall, winter, dead winter, and thaw. The placid sea gets ice skim in mid-fall.

If you are less than totally ignorant of science, you know that Sanchrist IV is one of the very few planets with not only Earthlike conditions but with life forms that mimic our own patterns of DNA. There are various theories explaining this coincidence, which cannot be coincidence, but you can find them elsewhere. What this meant in terms of our conduct as xenologists was that we could function with minimal ecological impact, living off the fat of the land—and the blood and flesh and marrow, which did require a certain amount of desensitization training. (Less for me than for some of the others, as I've said, since I've always had an atavistic leaning toward dishes like steak tartare and sushi.)

Satellite observation has located 119 bands, or families, of Plathys, and there is no sign of other humanoid life on the planet. All of them live on islands in a southern subtropical sea—at least it would be subtropical on Earth—a shallow sea that freezes solid in dead winter and can be walked over from late fall to early thaw. During the warm months, on those occasions when they actually stir their bones to go someplace, they pole rafts from island to island. During low tide, they can wade most of the way.

We set up our base in the tropics, well beyond their normal range, and hiked south during the late summer. We made contact with a few individuals and small packs during our month-long trek but didn't join a family until we reached the southern mountains.

The Plathys aren't too interesting during the warm months, except for the short mating season. Mostly they loll around, conserving energy, living off the meat killed during the thaw, which they smoke and store in covered holes. When the meat gets too old, or starts running out, they do bestir themselves to fish, which takes little enough energy. The tides are rather high in summer and fall, and all they have to do is stake down nets in the right spots during high tide. The tide recedes and leaves behind flopping silver bounty. They grumble and joke about the taste of it, though.

They accepted our presence without question, placidly sharing their food and shelter as they would with any wayfaring member of another native family. They couldn't have mistaken us for natives, though. The smallest adult Plathy weighs twice as much as our largest. They stand about two and a half meters high and span about a meter and a half across the shoulders. Their heads are more conical than square, with huge powerful jaws: a mouth that runs almost ear to ear. Their eyes are set low, and they have mucous-membrane slits in place of external ears and noses. They are covered with sparse silky fur, which coarsens into thick hair on their heads, shoulders, armpits, and groins (and on the males' backs). The females have four teats defining the corners of a rectangular slab of lactiferous fatty tissue. The openings we thought were their vaginas are almost dorsal, with the cloacal openings toward the front. The male genitals are completely

ventral, normally hidden under a mat of hair. (This took a bit of snooping. In all but the hottest times and mating season, both genders wear a "modest" kilt of skin.)

We had been observing them about three weeks when the females went into estrus—every mature female, all the same day. Their sexuality was prodigious.

Everybody shed their kilts and went into a week-long unrelenting spasm of sexual activity. There is nothing like it among any of the sentient cultures—or animal species!—that I have studied. To call it an orgy would be misleading and, I think, demeaning to the Plathys. The phenomenon was more like a tropism, in plants, than any animal or human instinct. They quite simply did not do anything else for six days.

The adults in our family numbered eighty-two males and nineteen females (the terrible reason for the disparity would become clear in a later season), so the females were engaged all the time, even while they slept. While one male copulated, two or three others would be waiting their turn, prancing impatiently, masturbating, sometimes indulging in homosexual coupling. ("Indulging" is the wrong word. There was no sense that they took pleasure in any sexual activity; it was more like the temporary relief of a terrible pressure that quickly built up again.) They attempted coupling with children and with the humans of my expedition. Fortunately, for all their huge strength they are rather slow and, for all the pressure of their "desire," easily deflected. A kick in the knee was enough to send them stumping off toward someone else.

No Plathys ate during the six days. They slept more and more toward the end of the period, the males sometimes falling asleep in the middle of copulation. (Conversely, we saw several instances of involuntary erection and ejaculation while sleeping.) When it was finally over, everyone sat around dazed for a while, and then the females retired to the storage holes and came back with armloads of dried and smoked meat and fish. Each one ate a mountain of food and fell into a coma.

There are interesting synchronies involved. At other times of the year, this long period of vulnerability would mean extinction of the family or of the whole species, since they evidently all

copulate at the same time. But the large predators from the north do not swim down at that time of year. And when the litters were dropped, about 500 days later, it would be not long after the time of easiest food gathering, as herds of small animals migrated north for warmth.

Of course we never had a chance to dissect a Plathy. It would have been fascinating to investigate the internal makeup that impels the bizarre sexual behavior. External observation gives some hint as to the strangeness. The vulva is a small opening, a little over a centimeter in extent, that stays sealed closed except when the female is in estrus. The penis, normally an almost invisible nub, becomes a prehensile purple worm about twenty centimeters long. No external testicles, there must be an internal reservoir (quite large) for seminal fluid.

The anatomical particulars of pregnancy and birth are even more strange. The females become almost immobilized, gaining perhaps fifty percent in weight. When it comes time to give birth, the female makes an actual skeletal accommodation, evidently similar to the way a snake unhinges its jaw when ingesting large prey. It is obviously quite painful. The vulva (or whatever new name applies to that opening) is not involved; instead, a slit opens along the entire perineal area, nearly half a meter long, exposing a milky white membrane. The female claws the membrane open and expels the litter in a series of shuddering contractions. Then she pushes her pelvic bones back into shape with a painful grinding sound. She remains immobile and insensate for several days, nursing. The males bring females food and clean them during this period.

None of the data from the first expedition had prepared us for this. They had come during dead winter and stayed one (Terran) year, so they missed the entire birth cycle. They had noted that there were evidently strong taboos against discussing sexual matters and birth. I think "taboo" is the wrong word. It's not as if there were guilt or shame associated with the processes. Rather, they appear to enter a different state of consciousness when the females are in heat and giving birth, a state that seems to blank out their verbal intelligence. They can no more discuss their sexuality than you or I could sit and chat about how our pancreas

was doing.

There was an amusing, and revealing, episode after we had been with the family for several months. I had been getting along well with Tybru, a female elder with unusual linguistic ability. She was perplexed at what one of the children had told her.

The Plathys have no concept of privacy; they wander in and out of each other's *maffas* (the yurtlike tents of hide they use as shelter) at any time of the day or night, on random whim. It was inevitable that sooner or later they would observe humans having sex. The child had described what she'd seen fairly accurately. I had tried to explain human sexuality to Tybru earlier, as a way to get her to talk about that aspect of her own life. She would smile and nod diagonally through the whole thing, an infuriating gesture they normally use only with children prattling nonsense.

This time I was going to be blunt. I opened the *maffa* flap so there was plenty of light, then shed my kilt and got up on a table. I lay down on my back and tried to explain with simple words and gestures what went where and who did what to whom, and what might or might not happen nine months later.

She was more inclined to take me seriously this time. (The child who had witnessed copulation was four, pubescent, and thus too old to have fantasies.) After I explained she explored me herself, which was not pleasant, since her four-fingered hand was larger than a human foot, quite filthy, and equipped with deadly nails.

She admitted that all she really understood was the breasts. She could remember some weeks of nursing after the blackout period the female language calls "(big) pain-in-hips." (Their phrase for the other blackout period is literally "pain-in-the-ass.") She asked, logically enough, whether I could find a male and demonstrate.

Actually, I'm an objective enough person to have gone along with it, if I could have found a man able and willing to rise to the occasion. If it had been near the end of our stay, I probably would have done it. But leadership is a ticklish thing, even when you're leading a dozen highly educated, professionally detached people, and we still had three years to go.

I explained that the most-elder doesn't do this with the men she's in charge of, and Tybru accepted that. They don't have much

of a handle on discipline, but they do understand polity and social form. She said she would ask the other human females.

Perhaps it should have been me who did the asking, but I didn't suggest it. I was glad to get off the hook, and also curious as to my people's reactions.

The couple who volunteered were the last ones I would have predicted. Both of them were shy, almost diffident, with the rest of us. Good field workers but not the sort of people you would let your hair down with. I suppose they had better "anthropological perspective" on their own behavior than the rest of us.

At any rate, they retired to the *maffa* that was nominally Tybru's, and she let out the ululation that means "All free females come here." I wondered whether our couple could actually perform in a cramped little yurt filled with sweaty giants asking questions in a weird language.

All the females did crowd into the tent, and after a couple of minutes a strange sound began to emanate from them. At first it puzzled me, but then I recognized it as laughter! I had heard individual Plathys laugh, a sort of inhaled croak—but nineteen of them at once was an unearthly din.

The couple was in there a long time, but I never did find out whether the demonstration was actually consummated. They came out of the *maffa* beet red and staring at the ground, the laughter behind them not abating. I never talked to either of them about it, and whenever I asked Tybru or the others, all I got was choked laughter. I think we invented the dirty joke. (In exchange, I'm sure that Plathy sexuality will eventually see service in the ribald metaphor of every human culture.)

But let me go back to the beginning.

We came to Sanchrist IV armed with a small vocabulary and a great deal of misinformation. I don't mean to denigrate my colleagues' skill or application. But the Garcia expedition just came at the wrong time and didn't stay long enough.

Most of their experience with the Plathys was during deep winter, which is their most lively and civilized season. They spend their indoor time creating the complex sculptures that so impressed the art world ten years ago and performing improvisational music and dance that is delightful in its alien grace.

Outdoors, they indulge in complicated games and athletic exhibitions. The larders are full, the time of birthing and nursing is well over, and the family exudes happiness, well into the thaw. We experienced this euphoria ourselves. I can't blame Garcia's people for their enthusiastic report.

We still don't know what happened. Or why it happened. Perhaps if these data survive, the next researchers...

Trouble.

Gabriel

I was having a strange dream of food—real food, cooked—when suddenly there was Maria, tugging on my arm, keeping me away from the table. She was whispering "Gab, wake up!" and so I did, cold and aching and hungry.

"What's—" She put her hand on my mouth, lightly.

"There's one outside. Mylab, I think." He had just turned three this winter, and been given his name. We crept together back to the mouth of the cave and both jumped when my ankle gave a loud pop.

It was Mylab, all right; the fur around one earhole was almost white against the blond. I was glad it wasn't an adult. He was only about a head taller than me. Stronger, though, and well fed.

We watched from the cave's darkness as he investigated the latrine rock, sniffing and licking, circling.

"Maybe he's a scout for a hunting party," I whispered. "Hunting us."

"Too young, I think." She passed me a stone axe. "Hope we don't have to kill him."

"Should we wake the others?"

"Not yet. Make us easier to scent." As if on cue, the Plathy walked directly away from the rock and stood hands on hips, sniffing the air. His head wagged back and forth slowly, as if he were triangulating. He shuffled in a half circle and stood looking in our direction.

"Stay still."

"He can't see us in the shadow."

"Maybe not." Their eyesight was more acute than ours, but

they didn't have good night vision.

Behind us, someone woke up and sneezed. Mylab gave a little start and then began loping toward the cave.

"Damn it," Maria whispered. She stood up and huddled into the side of the cave entrance. "You get over there." I stationed myself opposite her, somewhat better hidden because of a projecting lip of rock.

Mylab slowed down a few meters from the cave entrance and walked warily forward, sniffing and blinking. Maria crouched, gripping her spear with both hands, for thrusting.

It was over in a couple of seconds, but my memory of it goes in slow motion: he saw Maria, or sensed her, and lumbered straight for her, claws out, growling. She thrust twice into his chest while I stepped forward and delivered a two-handed blow to the top of his head.

That axe would have cracked a human head from crown to jaw. Instead, it glanced off his thick skull and hit his shoulder, then spun out of my grip.

Shaking his head, he stepped around and swung a long arm at me. I was just out of range, staggering back, one claw opened up my cheek and the tip of my nose. Blood was spouting from two wounds in his chest. He stepped forward to finish me off and Maria plunged the spear into the back of his neck. The flint blade burst out under his chin in a spray of blood.

He stood staggering between us for a moment, trying to reach the spear shaft behind him. Two stones flew up from the rear of the cave; one missed, but the other hit his cheek with a loud crack. He turned and stumbled away down the slope, the spear bouncing grotesquely behind him.

The other four joined us at the cave entrance. Brenda, our doctor, looked at my wound and regretted her lack of equipment. So did I.

"Have to go after him," Derek said. "Kill him."

Maria shook her head. "He's still dangerous. Wait a few minutes; then we can follow the blood trail."

"He's dead," Brenda said. "His body just doesn't know it yet."

"Maybe so," Maria said, her shoulders slumping sadly. "Anyhow, we can't stay here. Hate to move during daylight, but we

don't have any choice."

"We're not the only ones who can follow a blood trail," Herb said. He had a talent for stating the obvious.

We gathered up our few weapons, the water bladders, and the food sack, to which we had just added five small batlike creatures, mostly fur and bone. None of us looked forward to being hungry enough to eat them.

The trail was easy to follow, several bright red spatters per meter. He had gone about three hundred meters before collapsing.

We found him lying behind a rock in a widening pool of blood, the spear sticking straight up. When I pulled it out he made a terrible gurgling sound. Brenda made sure he was dead.

Maria looked very upset, biting her lip, I think to keep tears away. She is a strange woman. Hard and soft. She treats the Plathys by the book but obviously has a sentimental streak toward them. I sort of like them too, but don't think I'd want to take one home with me.

Brenda's upset too, retching now. My fault; I should have offered to do the knife. But she didn't ask.

I'd better take point position. Stop recording now. Concentrate on not getting surprised.

Maria

Back to the beginning. Quite hot when we were set down on the tropical mainland. It was the middle of the night and we worked quickly, with no lights (what I'd give for night glasses now), to set up our domed base.

In a way it's a misnomer to call it a "base," since we left it the next night, not to return for three and a half years. We thought. It was really just a staging area and a place where we would wait for pickup after our mission was ended. We really didn't foresee having to run back to it to hide from the Plathys.

It was halfheartedly camouflaged, looking like a dome of rock in the middle of a jungle terrain that featured no other domes of rock. To our knowledge at the time, no Plathy ever ventured that far north, so even that gesture toward noninterference was a matter of form rather than of actual caution. Now we know that

some Plathys do go that far, on their rite-of-passage wanderings. So it's a good thing we didn't simply set up a force field.

I think the closest terrestrial match to the biome there would be the jungles of the Amazon basin. Plus volcanoes, for a little extra heat and interest. Sort of a steam bath with a whiff of sulfur dioxide added to the rich smell of decaying vegetable matter. In the clearings, riots of extravagant flowers, most of which gave off the aroma of rotting meat.

For the first leg of our journey, we had modern energy weapons hidden inside conventional-looking spears and axes. It would have been more sporting to face the Mesozoic fauna with primitive weapons, but of course we had no interest in that sort of adventure. We often did run into creatures resembling the *Deinonychus* (Lower Cretaceous period)—about the size of a human but fast, and all claws and teeth. They travel in packs, evidently preying on the large placid herbivores. We never saw fewer than six in a group, and once were cornered by a pack of twenty. We had to kill all of them, our beams silently slashing them into steaming chunks of meat. None paid any attention to what was happening to his comrades but just kept advancing, bent low to the ground, claws out, teeth bared, roaring. Their meat tasted like chicken, but very tough.

It took us nine days to reach the coast, following a river. (Did I mention that days here are twenty eight hours long? Our circadian rhythms had been adjusted accordingly, but there are other physiological factors. Mostly having to do with fatigue.) We found a conspicuous rock formation and buried our modern weapons a hundred meters to the north of it. Then we buried their power sources another hundred paces north. We kept one crazer for group defense, to be discarded before we reached the first island, but otherwise all we had was flint and stone and bicuspid with amazing memories.

We had built several boats with these tools during our training on Selva, but of course it was rather different here. The long day, and no comfortable cot to retire to at night. No tent to keep out the flying insects, no clean soft clothes in the morning, no this, no that. Terrible heat and a pervasive moldy smell that kept us all sniffing in spite of the antiallergenic drugs that our modified

endocrine systems fed us. We did manage to get a fire going, which gave us security and roast fish and greatly simplified the boat-building. We felled two large trees and used fire to hollow them out, making outrigger canoes similar to the ones the Maori used to populate the sparse South Pacific. We weren't able to raise sails, though, since the Plathys don't have that technology. They wouldn't have helped much, anyway; summer was usually dead calm. We didn't look forward to rowing 250 kilometers in the subtropical heat. But we would do it systematically.

Herb was good at pottery, so I exempted him from boat-building in exchange for the fascinating job of crafting and firing dozens of water jugs. That was going to be our main survival problem, since it was not likely to rain during the couple of weeks we'd be at sea. Food was no problem; we could spear fish and probably birds (though eating a raw bird was not an experiment even I could look forward to) and also had a supply of smoked dinosaur.

I designed the boats so that either one would be big enough to carry all twelve of us, in case of trouble. As a further safeguard, we took a shakedown cruise, a night and a day of paddling and staying anchored near shore. We took our last fresh-water bath, topped off the jugs, loaded our gear, and cast off at sundown.

The idea had been to row all night, with ten minutes' rest each hour, and keep going for a couple of hours after sunup, for as long as we could reliably gauge our direction from the angle of the sun. Then anchor (the sea was nowhere more than ten or twelve meters deep) and hide from the sun all day under woven shades, fishing and sleeping and engaging in elevated discourse. Start paddling again when the sun was low enough to tell us where north was. It did go that way for several days, until the weather changed.

It was just a thin haze, but it was enough to stop us dead. We had no navigational instruments, relying on the dim triangle of stars that marked the south celestial pole. No stars, no progress.

This was when I found out that I had chosen my party well. When the sky cleared two nights later, there was no talk of turning back, though everyone was capable of counting the water jugs and doing long division. A few more days becalmed and we would be in real danger of dying from dehydration, unable to make landfall

in either direction.

I figured we had been making about 25 kilometers per night. We rowed harder and cut the break time down to five minutes, and kept rowing an extra hour or so after dawn, taking a chance on dead reckoning.

Daytime became a period of grim silence. People who were not sleeping spent the time fishing the way I had taught them, Eskimo style (though those folks did it through a hole in the ice): arm cocked, spear raised, staring at one point slightly under the surface; when a fish approaches a handspan above that point, let fly the spear. No Eskimo ever applied greater concentration to the task; none of them was ever fishing for water as well as food. Over the course of days we learned which kinds of fish had flesh that could be sucked for moisture, and which had to be avoided for the salty blood that suffused their tissues.

We rationed water fairly severely, doling it out in measures that would allow us to lose one night out of three to haze. As it turned out, that never happened again, and when we sighted land, finally, there was water enough for another four days of short rations. We stifled the impulse to drink it all in celebration; we still had to find a stream.

I'd memorized maps and satellite photos, but terrain looks much different seen horizontally. It took several hours of hugging the shore before I could figure out where we were; fortunately, the landmark was a broad shallow river.

Before we threw away the crazer and its power source, we used it to light a torch. When the Plathys traveled, they carried hot coals from the previous night's fire, insulated in ash inside a basket of tough fiber. We would do the same, rather than spend an hour each day resolutely sawing two pieces of dry wood together. We beached the canoes and hauled them a couple of hundred meters inland, to a stand of bushes where they could be reasonably well camouflaged. Perhaps not much chance they would still be there after a full year, but it was better than simply abandoning them.

We walked inland far enough for there to be no trace of salt in the muddy river water, and cavorted in it like schoolchildren. Then Brenda and I built a fire while the others stalked out in search of food.

Game was fairly plentiful near the river, but we were not yet skilled hunters. There was no way to move quietly through the grass, which was shoulder-high and stiff. So the hunters who had the best luck were the ones who tiptoed up the bank of the stream. They came back with five good-sized snakes, which we skinned and cleaned and roasted on sticks. After two weeks of raw fish, the sizzling fatty meat was delicious, though for most of us it went through the gut like a dropped rock.

We made pallets of soft grass, and most of us slept well, though I didn't. Combination of worry and indigestion. I was awake enough to notice that various couples took advantage of the relative privacy of the riverbank, which made me feel vaguely jealous and deprived. I toyed with the idea of asking somebody, but instead waited for somebody to ask me, and wound up listening to contented snores half the night.

A personal note, to be edited out if this tooth survives for publication. Gabriel. All of us women had been studying his naked body for the past two weeks, quite remarkable in proportion and endowment, and I suppose the younger women had been even more imaginative than me in theorizing about it. So I was a little dismayed when he went off to the riverbank with a male, his Selvan crony Marcus. I didn't know at the time that their generation on Selva is very casual about such things, and at any rate I should have been anthropologist enough to be objective about it. But I have my own cultural biases, too, and (perhaps more to the point) so do the Terran males in the party. As a scientist, I can appreciate the fact that homosexuality is common and natural and only attitudes about it change. That attitude is not currently very enlightened on Earth: I resolved to warn them the next day to be discreet. (Neither of them is exclusively homosexual, as it turned out; they both left their pallets with women later in the night. Gabriel at least twice.)

We had rolled two large and fairly dry logs over the fire before bedding down, orienting them so as to take advantage of the slight breeze, and the fire burned brightly all night without attention. That probably saved our lives. When we broke camp in the morning and headed south, we found hundreds of tracks just downwind, the footpads of large catlike creatures. What an idiot

I had been, not to post guards! Everyone else was sheepish at not having thought of it themselves. The numb routine and hard labor of the past two weeks had dulled us; now we were properly galvanized by fear. We realized that for all our survival training, we still had the instincts of city folk, and those instincts could kill us all.

This island is roughly circular, about a hundred kilometers in diameter, with a central crater lake. We would follow this river to the lake and then go counterclockwise to the third stream and follow it to the southern shore. Then we would hop down an archipelago of small islands, another 80 kilometers, to the large island that was our final destination.

The scrub of the coastal lowland soon gave way to tangled forest, dominated by trees like Earth's banyan—a large central trunk with dozens or hundreds of subsidiary trunks holding up an extensive canopy of branches. It was impossible to tell where one tree's territory ended and another's began, but some of the largest must have commanded one or two ares of ground. Their bark was ashen white, relieved by splotches of rainbow lichen. No direct sunlight reached the ground through their dense foliage; only a few spindly bushes with pale yellow leaves pushed out of the rotting humus. Hard for anything to sneak up on us at ground level, but we could hear creatures moving overhead. I wondered whether the branches were strong enough to support the animals that had watched us the night before, and felt unseen cats' eyes everywhere.

We stopped to eat in a weird clearing. Something had killed one of the huge trees; its rotting stump dominated the clearing, and the remnants of its smaller trunks stood around like ghostly guardians, most of them dead but some of them starting to sprout green. I supposed one would eventually take over the space. After feasting on cold snake, we practiced spear-throwing, using the punky old stump as a target. I was the least competent, both in range and accuracy, which had also been the case on Selva. As a girl I'd shown no talent for athletics beyond jacks and playing doctor.

Suddenly all hell broke loose. Three cat-beasts leaped down from the forest canopy behind us and bounded in for the kill. I

thrust out my spear and got one in the shoulder, the force of the impact knocking me over. Brenda killed it with a well-aimed throw. The other two checked their advance and circled warily. They dodged thrown spears; I shouted for everyone to hold their fire.

Brenda and I retrieved our weapons and, along with Gabriel and Martin, closed in on the beasts, moving them away from where the thrown spears lay. In a few seconds the twelve of us had them encircled, and I suddenly remembered the old English expression "having a tiger by the tail." The beasts were only about half the size of a human, but all muscle and teeth. They growled and snapped at us, heads wagging, saliva drooling

I shouted "Now, Gab!" —he was the best shot—and he flung his spear at the closer one. It sank deep in the animal's side and it fell over, mewling and pawing the air. The other beast saw its chance and leaped straight at Gab, who instinctively ducked under it. It bounded off his back and sprang for the safety of the trees. Six or seven spears showered after it, but missed.

Gabriel had four puncture wounds under each shoulder blade from the cat's claws. Brenda washed them out thoroughly but decided against improvising a dressing out of leaf and vine. Just stay clean, always good advice.

We skinned and gutted the two cats and laboriously sliced their flesh into long thin strips for jerky. The old stump made a good smoky fire for the purpose. As darkness fell, we built another bright fire next to it.

I set up a guard schedule, with teams of three each standing three-hour shifts while the rest slept, but none of us slept too soundly. Over the crackle of the fires I was sure I could hear things moving restlessly in the woods. If they were there, though, they weren't bold enough to attack. During my watch a couple of dog-sized animals with large eyes came to the periphery of the clearing, to feast on the cat-beasts' entrails. We threw sticks at them but they just looked at us, and left after they had eaten their fill.

If my estimate of our progress was correct, we had about 30 kilometers of deep woods to go, until the topography opened up into rolling hills of grassland. Everyone agreed that we should try

to make it in one push. There was no guarantee we could find another clearing, and nobody wanted to spend a night under the canopy. So at first light, we bundled the jerky up inside a stiff catskin and headed south.

As we moved along the river the nature of the trees changed, the banyans eventually being replaced by a variety of smaller trees—damn! Two of them!

Brenda

I wasn't paying close attention, still grieving over Mylab—actually, grieving for myself, for having committed murder. I've had patients die under my care, but the feeling isn't even remotely similar. His eyes, when I drew the flint across his throat—they went bright with pain and then immediately dull.

We'd been walking for about an hour after leaving the cave, picking our way down the north slope of the mountain, when Maria, in the lead, suddenly squatted down and made a silent gesture. We all crouched and moved forward.

Ahead of us on the trail, two adult Plathys sat together with their backs to us, talking quietly while they ate. They were armed with spear and broadaxe and knives. I doubted that the six of us could take even one of them in a face-to-face combat.

Maria stared, probably considering ambush, and then motioned for us to go back up the trail. I kept looking over my shoulder, every small scuff and scrape terribly amplified in my mind, expecting at any moment to see the two huge brutes charging after us. But their eating noise must have masked the sound of our retreat.

We crept back a couple of hundred meters to a fork in the trail and cautiously made our way down a roughly parallel track, going as fast as silence would allow. The light breeze was coming from behind us; we wanted to be past the Plathys—downwind of them—before they finished eating. We passed close enough to hear their talking, but didn't see them.

After about a kilometer the trail disappeared. We had to pick our way down a steep defile and couldn't help making noise dislodging pebbles that often cascaded into small rattling ava-

lanches. We were only a few meters from the bottom of the cliff when the two Plathys appeared above us. They discussed the situation loudly for a few moments—using the hunting language, which none of us had been allowed to learn—and then set aside their weapons in favor of rocks.

When I saw what they were doing I slid right to the bottom, willing to take a few abrasions rather than present too tempting a target. Most of the others did the same. Herb took a glancing blow to the head and fell backward, landing roughly. I ran over to him, afraid he was unconscious. Gab beat me to him and hauled him roughly to his feet; he was dazed but awake. We each took an arm and staggered away as fast as we could, zigzagging as Gab muttered "go left" and "right," so as to present a more difficult target. I sustained one hard blow to the left buttock, which knocked me down. It was going to make sitting uncomfortable, but we wouldn't have to worry about that for a while.

We were lucky the Plathys hadn't brought rope, as a larger hunting party in the mountains would have done. They are rather clumsy rock climbers (though with their long arms they can run up a steep slope very fast). One of them started down after us, but after a nearly fatal slip he scrambled back up.

We pressed our advantage, such as it was. To pursue us they would have to make a detour of a couple of kilometers, and at any rate we could go downhill faster than they could. It seemed likely that they would instead go back to their main group to report our whereabouts, and then all of them try to catch us in the veldt. On level ground they could easily run us down, once they caught our scent.

Maria, xenologist to the end, remarked how lucky we were that they had never developed the idea of signal drums. It is strange, since they use such a variety of percussion instruments in their music and dancing.

Such music and dancing. They seemed so human.

Our only chance for survival was to try to confuse them by splitting up. Maria breathlessly outlined a plan as we hurried down the slope. When we reached the valley we would get a bearing on the stream we'd followed here, then go six different ways, rendezvousing at the stream's outlet to the sea three days

later; at nightfall, whoever was there would cross to the next island. Even at high tide it should be possible to wade most of the way.

I suggested we make it three pairs rather than six loners, but Maria pointed out that two of us really didn't stand a much better chance against an armed Plathy than one; in either case, the only way we could kill them would be by stealth. Murder. I told her I didn't think I would be able to do it, and she nodded. Probably thinking that she would have said the same thing a few days ago.

We stopped for a few minutes to rest on a plateau overlooking the veldt, where Maria pointed out the paths she wanted each of us to take. Herb and Derek would go the most direct route, more or less north, but twining in and out of each other's path so as to throw off the scent. Gab, being the fastest, would run halfway around the mountain, then make a broad arc north. She would go straight northeast for about half the distance and then cut back; Martin would do the opposite. I was to head due west, straight for the stream, and follow it down, in and out of the water. All of us were to "leave scent" at the places where our paths diverged the most from straight north.

A compass would have been nice. At night we'd be okay if it didn't cloud up again, but during the day we'd just have to follow our direction bump through the tall grass. I was glad I had an easy path.

Not all that easy. The three water bladders went to the ones who would be farthest from the stream, of course. So I had to go a good half day without water. Assuming I didn't get lost. We divided the food and scrambled down in six different directions.

Maria

Where was I? Coming here, we got around the crater lake without incident, but the descent to the shore was more difficult than I had anticipated. It was not terribly steep, but the dense undergrowth of vines and bushes impeded our progress. After two days we emerged on the shore, covered with scratches and bruises. At least we'd encountered no large fauna.

(By this time I had a great deal of sympathy for the lazybones

minority on the Planning Committee who'd contended that we were being overly cautious in putting the base so far from the Plathy island. They'd recommended we put it on this island, with only 80 kilometers of shallow sea separating us from our destination. I'd voted, along with the majority, for the northern mainland, partly out of a boneheaded desire for adventure.)

What we faced was a chain of six small islands and countless sandbars, in a puddle of a sea that rarely was more than a meter deep. We knew from Garcia's experience that a boat would be useless. With vine and driftwood we lashed together a raft to carry our weapons and provisions, filled the water jugs, and splashed south.

It was tiring. The sand underfoot was firm, but sloshing through the shallow water was like walking with heavy weights attached to your ankles. We had to make good progress, though; the only island we were sure had fresh water was 40 kilometers south, halfway.

We made a good 25 kilometers the first day, dragging our weary bones up onto an island that actually had trees. Marcus and Gab went off in search of water, finding none, while the rest of us gathered driftwood for a fire or tried lackadaisically to fish. Nanci speared a gruesome thing that no one would touch, including her, and nobody else caught anything. Susan and Brenda dug up a couple of dozen shellfish, though, which obediently popped open when roasted. They tasted like abalone with sulfur sauce.

As we were settling in for the night, we met our first Plathy. She walked silently up to the fire, as if it were the most normal thing in the world to happen upon a dozen creatures from another planet. She was young, only a little larger than me (now, of course, we know she was on her Walk North). When I stood up and tried to say "Welcome, sister" in the female language, she screamed and ran. We heard her splashing away for some time, headed for the next county.

The next day was harder, though we didn't have as far to go. Some geological gremlin had raked channels across our path, new features since Garcia's mission, and several times we had to swim as much as 200 meters before slogging again. (Thank the gods for Gab, who would gamely paddle out toward the horizon in search

of solid ground, and for Marcus, who could swim strongly enough one-handed to tow the raft.)

It was dark by the time we got to the water hole island, and we had lost our coals to an inopportune wave. We were cold, and terminally wrinkled, but so parched from sucking salt water that we staggered around like maniacs, even laughing like maniacs, searching blindly for the artesian well that Garcia's records said was there. Finally Joanna found it, stumbling in headfirst and coming up choking and laughing. We all gorged ourselves, wallowing. In my case the relief was more than mouth and throat and stomach. At sundown I'd squatted in the shallows and squeezed out piss dark with stringy blood. That scared me. But the fresh water evidently cleared it up.

There were no more surprises the next two days of island-hopping, except the pleasant one of finding another water source. We couldn't find any wood dry enough to start a fire with, but it didn't get all that cold at night.

Late afternoon of the second day we slogged into the swamp that was the northern edge of the Plathy island. The dominant form of life was a kind of bilious spotted serpent that would swim heavily away as we approached. We were out of food but didn't go after them. Before nightfall the swamp had given way to rather damp forest, but we found dry dead wood suspended in the branches and spun up a bright fire. We dug up a kind of tuber that Garcia's group had identified as edible and roasted them. Then tried to sleep in spite of the noises in the darkness. At first light we moved out fast, knowing that in 30 or so kilometers the forest would give way to open grassland.

The change from forest to veldt was abrupt. We were so happy to be out of the shadow of it—funny that in my present situation I feel exactly the opposite; I feel exposed, and hurry toward the concealment of the thick underbrush and close-spaced heavy trunks. I feel so visible, so vulnerable. And I probably won't find water until I get there. I'm going to turn off this tooth for a few minutes and try not to scream.

All right. Let me see. On our way to the Plathys, we walked across the veldt for two days. Food was plentiful; the *zamri* are like rabbits, but slow. For some reason they like to cluster around

the *ecivrel* bush, a thorny malodorous plant, and all we would have to do to bag several of them was form a loose circle around the bush and move in, clubbing them as they tried to escape. I would like to find one now. Their blood is sweet.

There's a Plathy song:

*Sim garlish a sim garlish farla tob—!ka.
Soo pan du mairly garlish ezda tob—!ka.
Oe vairly tem se garlish mizga mer—!ka.
Garlish —!ka. Tem se garlish—!ka.*

Translating it into my own language doesn't work well:

*Sacar sangre y sacar sangre para vivir—sí.
En sangre damos muerte y sacamos vida —sí
Alabamos la sangre de uida que usted nos da—sí.
Sangre—sí Sangre de vida—sí.*

Herb, who's a linguist, did a more accurate rendering in English:

*Take blood and take blood for living—yes.
In blood we give death and take living—yes.
We worship the blood of life you give us —yes.
Blood—yes. Blood of life—yes!*

But there is really no translation. Except in the love of sweet blood.

I've become too much like them. My human instinct is to keep running and, when I can't run, to hide. But a strong Plathy feeling is to stand in a clearing and shout for them. Let them come for me; let me die in a terrible ecstasy of tearing flesh and cracking bone. Let them suck my soft guts so I can live in them—

God, I have to stop. You'll think I'm crazy. Maybe I'm getting there. Why won't it rain?

Gabriel

Turned on the tooth while I sit by the water and rest. Maria wants us to record as much as we can, in case. Just in case.

Why the hell did I sign up for this? I was going to switch out of xenology and work for an advanced degree in business. But she came on campus recruiting, with all those exotic Earth women. They're just like women anywhere, big surprise. Except her. She is truly weird. Listen to this, tooth: I want her. She is such a mystery. Maybe if we live through this I'll get up the courage to ask. Plumb her, so to speak; make her open up to me, so to speak; get to the bottom of her, so to speak. A nice bottom for a woman of her advanced years.

How can I think of sex at a time like this? With a woman twice my age. If somebody on a follow-up expedition finds this tooth in a fossilized pile of Plathy shit, please excuse my digression. If I live to have the tooth extracted and played back, I don't think it will make much difference to my professional reputation. I'll be writing poetry and clerking for my father's export firm.

I ran around the mountain. Collapsed once and slept for I don't know how long. Got up and ran to the river. Drank too much. Here I sit, too bloated to move. If a Plathy finds me I won't be a fun meal.

I was really getting to like them, before they turned on us. They seemed like such vegetables until it started to get cold. Then it was as if they had turned into a different species. With hindsight, it's no big surprise that they should change again. Or that they should be capable of such terrible violence. We were lulled by their tenderness toward each other and their friendliness toward us, and the subtle alien grace of their dancing and music and sculpture. We should have been cautious, having witnessed the two other changes: the overnight transformation into completely sexual creatures and the slower evolution from lumpish primitives to charming creators, when the snow started to fall.

The change was obvious after the first heavy snowfall, which left about half a meter of the stuff on the ground. The Plathys started singing and laughing spontaneously. They rolled up their *maffas* and stored them in a cave and began playing in the snow—or at least it seemed like play, they were so carefree and childlike about it. Actually, they were building a city of snow.

The individual buildings, *lacules*, were uniform domes built up from blocks of snow. Maria called them igloos, after a similar primitive structure on Earth, and the name stuck. Even some of

the Plathys used it.

There were twenty-nine domes arranged in a circle, eventually connected by tunnels as the snow deepened. The inside of the circle was kept clear, the snow being constantly shoveled into the spaces between the domes. The net result was a high circular wall that kept the wind out. Later we learned it would also keep people *in*.

They had a fire going most of the time in the middle of the circle, which served as a center for their daytime activities: music, dance, tumbling, athletic competition, and storytelling (which seemed to be a kind of fanciful history combined with moral instruction). Even with the sun up, the temperature rarely got above freezing, but the Plathys thrived in the cold. They would sit for hours on the ice, watching the performances, wearing only their kilts. We wore leggings and boots, jackets, and hats. The Plathys would only dress up if they had to go out at night (which they often did, for reasons they couldn't or wouldn't explain to us), when the temperature dropped to forty or fifty below.

I went out at night a couple of times, but I didn't go far. Too easy to get lost. If it was clear you could see the ring of igloos ghostly in the starlight, but if there was any weather you couldn't see your own hand in front of your face.

The igloos were surprisingly warm, though the only source of heat was one or two small oil lamps, plus metabolism. That metabolism also permeated everything with the weird smell of Plathy sweat, which resembled rotten bananas. Our own dome got pretty high with the aroma of unwashed humans; Plathys would rarely visit for more than a minute or two.

Seems odd to me that the Plathys didn't continue some of their activities, like music and storytelling, during the long nights. Some of them did routine housekeeping chores, mending and straightening, while others concentrated on sculpture. The sculptors seemed to go into a kind of trance, scraping patiently away at their rock or wood with teeth and claws. I never saw one use a tool, though they did carve and whittle when making everyday objects. I once watched an elder through the whole process. He sorted through a pile of rocks and logs until he found a rock he liked. Then he sat back and studied it from every angle, staring for

more than an hour before beginning. Then he closed his eyes and started gnawing and scratching. I don't think he opened his eyes until he was done working. When I asked him if he had opened his eyes, he said, "Of course not."

Over the course of six nights he must have spent about sixty hours on the stone. When he finished, it was a delicate lacy abstraction. The other Plathys came by, one at a time, to compliment him on it—the older ones offering gentle criticism—and after everyone had seen it, he threw it outside for the children to play with. I retrieved it and kept it, which he thought was funny. It had served its purpose, as he had served his purpose for it: finding its soul (its "face inside") and releasing it.

I shouldn't talk about sculpture; that's Herb's area of expertise. The assignment Maria gave me was to memorize the patterns of the athletic competitions. (I was an athlete in school, twice winning the Hombre de Hierro award for my district.) There's not much to say about it, though. How high can you jump, how fast can you run, how far can you spit. That was an interesting one. They can spit with great force. Another interesting one was wood-eating. Two contestants are given similar pieces of wood—kindling, a few centimeters wide by half a meter long—and they crunch away until one has consumed the whole thing. Since the other doesn't have to continue eating afterward, it's hard to say which one is the actual winner. (When I first saw the contest, I thought they must derive some pleasure from eating wood. When I asked one about it, though, he said it tastes terrible and hurts at both ends. I can imagine.)

Another painful sport is hitting. It's unlike boxing in that there's no aggression, no real sense of a fight. One contestant hits the other on the head or body with a club. Then he (or she) hands the club to the opponent, who returns the blow precisely. The contest goes on until one of them drops, which can take several hours.

You ask them why they do this and most of them will not understand. "why" is a really difficult concept for Plathys; they have no word for it—but when you do get a response it's on the order of "This is part of life." Which is uninformative but not so alien. Why do humans lift heavy weights or run till they drop or

beat each other senseless in a ring?
Oh my God. Here comes one.

Maria

Finally, water. I wish there were some way to play back this tooth and edit it. I must have raved for some time, before I fell unconscious a few kilometers from here. I woke up with a curious *zamri* licking my face. I broke its neck and tore open its throat and drank deeply. That gave me the strength to get here. I drank my fill and then moved one thousand steps downstream, through the cold water, where I now sit concealed behind a bush, picking morsels from the *zamri*'s carcass. When I get back to Earth I think I'll become a vegetarian.

This is very close to the place where we met our first cooperative Plathy. There were three of them, young; two ran away when they spotted us, but the third clapped a greeting, and when we clapped back he cautiously joined us. We talked for an hour or so, the other two watching from behind trees

They were from the Tumli family, providentially; the family that had hosted Garcia's expedition. This male was too young to actually remember the humans, but he had heard stories about them. He explained about the Walk North. In their third or fourth year, every Plathy goes off on his own, going far enough north to get to where "things are different." He brings back something odd. The elders then rule on how powerful the oddness of the thing is, and according to that power, the youngster is assigned his preliminary rank in the tribe.

(They know that this can eventually make the difference between life and death. The higher up you start, the more likely you are to wind up an elder. Those who aren't elders are allowed to die when they can no longer provide for themselves; elders are fed and protected indefinitely.)

Most of them travel as far as the crater lake island, but a few go all the way to the northern mainland. That was the ambition of the one we were talking to. I interrogated him as to his preparations for a boat, food, and water, and he said a boat would be nice but not necessary, and the sea was full of food and water.

He figured he could swim it in three hands of days, twelve. Unless he was chaffing me, they can evidently sleep floating and drink salt water. That will complicate our escape, if they keep pursuing.

I take it that the three of them were cheating a bit by banding together. He repeatedly stressed that they would be going their separate ways as soon as they got to the archipelago. I hope they stayed together the whole way. I'd hate to face that forest alone. Maybe I'll have to, though.

Before he left he gave us directions to his family, but we'd decided to at least start out with a different one from Garcia's in the interests of objectivity and to see how much information traveled from family to family. Little or none, it turned out. Our Camchai family knew about the Tumlils, since they shared the same area of veldt during the late summer, but none of the Tumlils had mentioned that ten hairless dwarfs had spent one winter with them.

After two days of relatively easy travel, we found the Camchais in their late-summer habitat, the almost treeless grassland at the foot of the southern mountains. Duplicating the experience of Garcia's group, we found ourselves unexcitedly welcomed into the tribe: we were shown where the food was, and various Plathys scrounged up the framework and hides to cobble together a *maffa* for us. Then we joined the family in their typical summertime activity, sitting around.

After a few weeks of trying to cajole information out of them, we witnessed the sudden explosion of sexual activity described earlier. Then they rested some more, five or six days, and began to pull up stakes.

Their supply of stored food was getting low and there was no easy hunting left in that part of the veldt, so they had to move around the mountains to the seashore and a wretched diet of fish.

The trek was organized and led by Kalyym, who by virtue of being the youngest elder was considered chief for such practical matters. She was one of the few Plathys we met who wore ornaments; hers was a necklace of dinosaur teeth she'd brought back from her Walk North, the teeth of a large carnivore. She claimed to have killed it, but everyone knew that was a lie, and respected her for being capable of lying past puberty.

It was significantly cooler on the other side of the mountains, with a chilly south wind in the evening warning that fall had begun and frost was near. The Plathys still lazed through midday, but in the mornings and evenings they fished with some energy and prepared for the stampede. They stockpiled driftwood and salt and sat around the fire chipping extra flints, complaining about eating fish and looking forward to bounty.

We spent several months in this transitional state, until one morning a lookout shouted a happy cry and the whole family went down to the shore with clubs. Each adult took about three meters of shoreline, the children standing behind them with knives.

We could hear them before we could see them—the *tolliws*, rabbit-sized mammals that chirped like birds. They sounded like what I imagine a distant cloud of locusts sounded like, in old times. The Plathys laughed excitedly.

Then they were visible, one whirring mass from horizon to horizon, like an island-sized mat of wriggling wet fur. Mammals schooling like fish. They spilled on to dry land and staggered into the line of waiting Plathys.

At first there was more enthusiasm than result. Everybody had to pick up his first *tolliw* and bite off its head and extol its gustatory virtues to the others, in as gruesome a display of bad table manners as you could find anywhere in the Confederación. Then, after a few too-energetic smashings, they settled into a productive routine: with the little animals milling around their ankles in an almost continuous stream, the adult would choose a large and healthy-looking one and club it with a backhand swipe that lofted the stunned animal in an arc back to where the child waited with the knife. The child would slit the animal's throat and set it on a large hide to bleed, and then wait happily for the next one. When the carcass had bled itself nearly dry, the child would give it a squeeze and transfer it to a stack on the sand, eventually working in a smooth assembly-line fashion. The purpose of the systematic bleeding was to build up on the hide layers of coagulated blood that, when dry, would be cut up into squares and used for snacks.

Large predators were scattered here and there through the swimming herd, fawn-colored animals resembling terrestrial

kangaroos, but with finger-long fangs overhanging the lower jaw. Most of them successfully evaded the Plathys, but occasionally one would be surrounded and clubbed to death amid jubilant screeching and singing.

This went on for what seemed to be a little less than two hours, during which time the oldest elders busied themselves filling a long trench with wood and collecting wet seaweed. When the last stragglers of the school crawled out of the water and followed the others down the beach, there were sixty pyramidal stacks of furry bodies, each stack nearly as tall as a Plathy, ranged down the beach. We could hear the family west of us laughing and clubbing away.

(The statistics of the process bothered me. They seemed to have killed about one out of a hundred of the beasts and then sent the remainder on down the beach, where the next family would presumably do the same, and so on. There were more than a hundred families, we knew. Why didn't they run out of *tolliws*? For once, Tybru gave me a straightforward answer: they take turns. Only sixteen families "gather" the creatures during each migration, alternating in a rotating order that had been fixed since the dawn of time. The other families took advantage of the migrations of other animals; she was looking forward to two years hence, when it would be their turn for the *jukha* slaughter. They were the tastiest, and kept well.

By this time it was getting dark. I had been helping the elders set up the long trench of bonfires; now we lit them, and with the evening chill coming in over the sea I was grateful for the snapping flames.

Tybru demonstrated the butchering process so we could lend a hand. Selected internal organs went into hides of brine for pickling, then the skin was torn off and the yellow layer of fat that clung to it was scraped into clay jars for reducing to oil. More fat was flensed from the body, and then the meat was cut off in thin strips, which were draped over green sticks for smoking. Alas, they had no way to preserve the brains, so most of the Plathys crunched and sucked all night while they worked.

We weren't strong enough or experienced enough to keep up with even the children, but we gamely butchered through the

night, trying not to cut ourselves on the slippery flint razors, working in the light of guttering torches. The seaweed produced an acrid halogen-smelling smoke that Tybru claimed was good for the lungs. Maybe because of its preservative effect.

The sun came up on a scene out of Hieronymus Bosch: smoke swirling over bloody sands littered with bones and heaps of entrails. Plathys and people blood-smeared and haggard with fatigue. We splashed into the icy water and scrubbed off dried blood with handfuls of sand, then stood in the stinging smoke trying to thaw out.

It was time to pack up and go. Already the rich smell of fresh blood was underlaid with a whiff of rot; insects were buzzing, and hardshell scavengers were scuttling up onto the beach. When the sun got high the place would become unlivable, even by Plathy standards.

We rolled up the smoked meat and blood squares into the raw scraped hides, which would later be pegged out and dried in the sun, and followed a trail up into the mountains. We set up our *maffas* on a plateau about a thousand meters up and waited placidly for the snow.

Someone coming.

Derek

I can no longer view them as other than dangerous animals. They mimic humanity—no, what I mean is that we interpret in human terms the things they do. The animal things they do. Maria, I'm sorry. I can't be a scientist about this, not any more. Not after what I just saw.

Herb and I were supposed to crisscross, going northeast a thousand steps, then northwest a thousand, and so forth. That was supposed to confuse them. They caught Herb.

I heard the scream. Maybe half a kilometer away. I should have run, knowing there was nothing I could do, but Herb and I've been close since school. Undergraduate. Were close. And there he—

Two of them had run him down in a small clearing, killed him and taken off his head. They were, one of them was .. I can't.

I hid in the underbrush. All I had was a club there was nothing

I could do. One of them was eating his, his private parts. The other was scooping him out, curious, dissecting him. I ran away. It's a wonder they didn't—

Oh shit. Here they come.

Gabriel

I think my wrist is broken. Maybe just sprained. But I killed the son of a bitch. He came around a bend in the river and I was on him with the spear. Element of surprise. I got him two good ones in the thorax before he grabbed me—where are their goddamned vital organs? A human would've dropped dead. He grabbed me by the wrist and slammed me to the ground. I rolled away, retrieved the spear, and impaled him as he jumped on me. He made a lot of noise and finally decided to die, after scraping my arm pretty well. For some reason he wasn't armed. Thank God. He was Embrek, the one who taught me how to fish. We got along so well. What the hell happened?

It was the first time it rained instead of snowing. All the music and everything stopped. They moped around all day and wouldn't talk. When it got dark they went wild.

They burst into our igloo, four of them, and started ripping off our clothes. Nanci, Susan, and Marcus resisted and were killed right there. One bite each. The rest of us were stripped and led or carried out into the cold, into the center of the compound. The cheerful fire was black mud now, starting to glaze with ice.

All the family except the oldest elders were there, standing around like zombies. No one spoke; no one took notice of anybody else. We all stood naked in the darkness. Kaiyym eventually brought out a single oil candle, so we could be mocked by its flickering warm light.

The nature of the rite became clear after a couple of hours. It was a winnowing process. If you lost consciousness the Plathys would gather around you and try to poke and kick you awake. If you stood up they would go back to ignoring you. If you stayed down, you would die. After a certain number of pokes and kicks, Kaiyym or some other elder would tear open the thorax in a single rip. Even worse than the blood was the sudden rush of steam into

the cold air. Like life escaping the body.

Then they would feed.

We knew we wouldn't last the night. But the slippery walls were impossible to scale, and the largest Plathys stood guard at every entrance to the ring of igloos.

After some whispered discussion, we agreed we had to do the obvious: rush the Plathy who stood guard in front of our own igloo. The ones who survived would rush in, quickly gather weapons and clothing, and try to make it out the back entrance before the Plathys could react. Then run for the caves.

We were lucky. We rushed the guard from six different directions. Crouching to slash at Derek, he turned his back to me, and I leaped, striking him between the shoulders with both feet. He sprawled face down in the mud, and didn't get up. We scrambled into the igloo and I stood guard with a spear while the others gathered up things. A couple of Plathys stuck their heads in the entrance and snarled, but they evidently didn't want to risk the spear.

We weren't immediately followed, and for the first hour or so we made good time. Then it started to rain again, which slowed us down to a crawl. With no stars, we had to rely on Maria's sense of direction, which is pretty good. We found the caves just at dawn, and got a few hours' sleep before Mylab found us and we had to kill him.

How long is this phase going to last? If it goes as long as the summer or winter phases, they're sure to track us down. We may be safe inside the dome, if we can get that far—

Noise...Maria!

Maria

I might as well say it. It might be of some interest. None of us is going to live anyhow. I'm beyond embarrassment, beyond dignity. Nothing to be embarrassed about anyhow, not really.

The thing that was splashing up the stream turned out to be Gabriel. I ran out of hiding and grabbed him, hugged him; we were both a little hysterical about it. Anyhow he got hard and we took care of it, and then we went back to my hiding place and took care

of it again. It was the first happy thing that's happened to me in a long time. Now I'm watching him sleep and fighting the impulse to wake him up to try for thirds. One more time before we die.

It's a strange state, feeling like a girl again, all tickled and excited inside, and at the same time feeling doomed. Like a patient with a terminal disease, high on medicine and mortality. There's no way we can outrun them. They'll sniff us down and tear us apart, maybe today, maybe tomorrow. They'll get us. Oh, wake up, Gab.

Be rational. This ferocity is just another change of state. They don't know what they're doing. Like the sex and birth phases. Tomorrow they may go back to being bovine sweet things. Or artisans again. Or maybe they'll discover the wheel for a week. What a weird, fucked-up bunch of ..

There must be some survival value in it. Certainly it serves to cull the weakest members out. And killing most of the females before puberty compensates for the size of the litters—or could the size of the litters be a response to the scarcity of females? Lamarckism either way. Can't think straight.

At any rate it certainly can't be instinctive behavior in regard to us, since we aren't part of their normal environment. Maybe we've unknowingly triggered aberrant behavior. Stress response. Olfactory catalyst. Violent displacement activity. Who knows? Maybe whoever reads this tooth will be able to make some sense of it. You will excuse me for the time being. I have to wake him up.

Brenda

Maria and Gab were waiting for me when I got to the mouth of the river. Gab has a badly sprained wrist; I splinted and bound it. His grip is still good, and fortunately he's left-handed. Maria's okay physically, just a little weak, but I wonder about her psychological state. Almost euphoric, which hardly seems appropriate.

We waited an extra half day, but the others are either dead or lost. They can catch up with us at the dome. We have axe, spear, and two knives. Gab turned one of the knives into a spear for me. Two water bladders. We filled the bladders, drank to saturation,

and waded out into the sea.

The water seems icy cold, probably more than ten degrees colder than when we walked through it before. Numb from the waist down after a few minutes. When the water is shallow or you get to walk along a sandbar, sensation returns, deep stinging pain. It was a good thing we'd found that second water island; only 10 kilometers of wading and limping along the wet sand.

We'd rolled up our furs and shouldered them, so they were fairly dry. Couldn't risk a fire (and probably couldn't have found enough dry stuff to make one), so we just huddled together for warmth. We whispered, mapping out our strategy, such as it was, and kept an eye out to the south. Though if we'd been followed by even one Plathy we'd be pretty helpless.

Thirty kilometers to the next water hole. We decided to stay here for a couple of days, eating the sulfurous oysters and regaining strength. It would have to be a fast push, going all the way on less than five liters of water.

In fact we stayed four days. Gab came down with bad diarrhea, and we couldn't push on until his body could hold fluid. It was just as well. We were all bone-tired and stressed to the limit.

The first night we just collapsed in a hamster pile and slept like the dead. The next day we gathered enough soft dry grass to make a kind of mattress, and spread our furs into a piecemeal blanket. We still huddled for warmth and reassurance, and after a certain amount of nonverbal discussion, Gab unleashed his singular talent on both of us impartially.

That was interesting. Something Maria said indicated that Gab was new to her. I'd thought that nothing—male, female, or Plathy—was safe around him. Maybe Maria's strength intimidated him, or her age. Or being the authority figure. That must be why she was in such a strange mood when I caught up with them. Anyhow, I'm glad for her.

Gab entertained us with poetry and songs in three languages. It's odd that all three of us know English. Maria had to learn it for her study of the Eskimos, and I did a residency in Massachusetts. Gab picked it up just for the hell of it, along with a couple of other Earth languages, besides Spanish and Pan-Swahili, and all three Selvan dialects. He's quite a boy. Maria was the only one who

could speak Plathy better than he. They tried duets on the blood songs and shit songs, but it doesn't sound too convincing. The consonants /ka and /ko you just can't do unless you have teeth like beartraps.

The stress triggered my period a week early. When we fled the igloo I hadn't had time to gather up my moss pads and leather strap contraption, so I just sort of dripped all over the island. It obviously upset Gab, but I'm not going to waddle around with a handful of grass for his precious male sensibilities. (His rather gruesome sickness didn't do much for *my* sensibilities, either, doctor or no.)

We spent the last day in futile basket weaving, trying to craft something that would hold water for more than a few minutes. We all knew that it could be done, but it couldn't be done by us, not with the grass on the island. Maria did manage to cobble together a bucket out of her kilt by working a framework of sticks around it. That will double our amount of water, but she'll have to cradle it with both arms.

Thirty kilometers. I hope we make it.

Maria

We were almost dead from thirst and exposure by the time we got to the water hole island. We had long since lost track of our progress, since the vegetation on the islands was radically different from summer's, and some of the shorelines had changed. We just hoped each large island would be the one, and finally one was.

Alongside the water hole we found the fresh remains of a fire. At first that gave us a little hope, since it was possible that the rest of our team had leapfrogged us while Gab was convalescing. But then we found the dropping place, and the excrement was Plathy. Three or four of them, by the looks of it. A day or so ahead of us.

We didn't know what to do. Were they hunters searching us out, or a group on their Walk North? If the latter, it would probably be smartest to stay here for a couple of days; let them get way ahead. If they were hunters, though, they might still be on the island, and it would be smarter for us to move on.

Gab didn't think they were hunters, since they would've

overtaken us earlier and made lunchmeat out of us. I wasn't sure. There were at least three logical paths through the archipelago; they might have taken one of the others. Since they could drink salt water, they didn't have to go out of their way to get to the island we first stopped at.

None of us felt up to pushing on. The going would be easier, but it would still be at least ten hours of sloshing through cold water on small rations. So we compromised.

In case there were hunters on the island, we made camp on the southern tip (the wind was from the north) in a small clearing almost completely surrounded by thick brambles. If we had to stand and fight, there was really only one direction they could approach us from. We didn't risk a fire and sent only one person out at a time for water or shellfish. One stayed awake while the other two slept.

Our precautions wouldn't amount to much if there actually were three or four of them and they all came after us. But they might be split up, and both Gab and I had proved they could be killed, at least one at a time.

We spent two uneventful days regaining our strength. About midday on the third, Gab went out for water and came back with Derek.

He was half dead from exposure and hunger. We fed him tiny bits of shellfish in water, and after a day of intermittent sleeping and raving, he came around enough to talk.

He'd seen two Plathys in the process of eating Herb. They ran after him, but he plunged blindly into brambles (his arms and lower legs were covered with festering scratches), and they evidently didn't follow him very far. He'd found the river and run out to sea in a blind panic. Got to the first water island and lay there for days. He couldn't remember whether he'd eaten.

Then he heard Plathys, or thought he did, and took off north as fast as he could manage. He didn't remember getting here. Gab found him unconscious at the water's edge.

So now the plan is to wait here two or three more days, until Derek feels strong enough for the next push.

Hardest part still ahead. Even if we don't run into Plathys. What if the boats are gone?

Gabriel

We didn't see any further sign of the Plathys. After four days Derek was ready to go. For a full day we drank all the water we could hold, and then at sundown set out.

There was only one place so deep we had to swim. I tried to carry Maria's water basket, sidestroking, but it didn't work. So the last 20 or 25 kilometers we were racing against the dwindling supply of water in the two bladders.

At first light there was still no sight of land, and we had to proceed by dead reckoning. (The Plathys evidently don't have this problem; they're somehow sensitive to the planet's magnetic field, like some Selvan migrating birds.) We saved a few spoonfuls of water to drink when we finally sighted land.

We went along in silence for an hour or so, and then Derek had a brainstorm. We were scanning the horizon from only a meter or so above sea level; if someone stood on my shoulders, he could see twice as far. Derek was the tallest. I ducked under and hoisted him up. He could stay balanced only for a second, but it did work; he saw a green smudge off to the left. We adjusted our course and slogged on with new energy. When all of us could see the smudge, we celebrated with a last sip of water.

Of course the stream that would be our guide uphill was nowhere to be seen. We stumbled ashore and did manage to lick enough moisture from foliage to partly allay our terrible thirst, though the bitter flavor soured my stomach.

We marked the spot with a large X in the sand and split into pairs. Brenda and I going one direction and Maria and Derek going the other, each with a water bladder to fill when one pair found the river. We agreed to turn back after no more than ten thousand steps. If neither pair found the river within 10 kilometers of our starting place, we'd just work our way uphill toward the crater lake. It would be slower going than following the stream's course, but we could probably manage it, licking leaves and splitting some kinds of stalks for water. And we'd be less likely to run into an ambush, if there were hunters waiting ahead. I wasn't looking forward to it, though. Coming down had been enough trouble.

We were lucky. In a sense. Brenda and I stumbled on the stream less than two kilometers from where we started. We drank deeply and jogged back to catch up with Maria and Derek.

We made an overnight camp some distance from the stream and foraged for food. There were no fish in the shallows, and none of the sulfurous oysters. There were small crabs, but they were hard to catch and had only a pinch of meat. We wound up digging tubers, which were not very palatable raw but would sustain us until we got to the lake, where fish were plentiful.

It might have been a little safer to travel by night, but we remembered how the brambles had flayed us before, and decided to take the chance. It was a mistake.

As we had hoped, progress was a lot faster and easier going up than it had been coming down. Less slipping. It was obvious that Plathys had preceded us, though, from footprints and freshly broken vegetation, so we climbed as quietly as possible.

Not quietly enough, perhaps, or maybe our luck just ran out. Damn it, we lost Derek. He had to be the one in front.

Maria

We couldn't see the sun because of the forest canopy, but it was obvious from the reddening of the light that we would soon have to decide whether to make camp or push on through the darkness. Gab and I were discussing this, whispering, when the Plathy attacked.

Derek was in front. The spear hit him in the center of the chest and passed almost completely through his body. I think it killed him instantly. The Plathy, a lone young female, came charging down the stream bed toward us, roaring. She tripped and fell almost at our feet. Probably stunned. Gab and I killed her with spear and axe. After she was dead, Gab hacked off her head and threw it into the bush.

We waited for the rest of them, but she evidently had been alone. Gab had a hard time controlling his grief.

When it got dark we pushed on. The stream was slightly phosphorescent, but we relied mainly on feeling our way. A kind of fungus on the forest floor always grew in pairs, and glowed dull

red, like pairs of sullen eyes watching us.

We made more noise than we had during the daytime, but there was probably little risk. Plathys sleep like dead things, and in this kind of terrain they don't post guard at night, since none of the predators here is big enough to bother them. Big enough to give us trouble, though. Three times we moved to the middle of the stream, when we thought we heard something stalking us.

The slope began to level off before it got light, and by dawn we were moving through the marshy grassland that bordered the crater lake.

We had unbelievable luck with the lake fish. Hundreds of large females lay almost immobile in the shallows. They were full of delicious roe. We gorged ourselves and then cut strips of flesh to dry in the sun. Not as effective as smoking, but we couldn't risk a fire.

We decided it would be safest to sleep separately, in case someone had picked up our trail. Like Gab, I found a tree to drape myself in. Brenda just found a patch of sunlight, arranged her furs on the wet ground, and collapsed. I thought I was too jangled to sleep, after Derek, but in fact I barely had time to find a reasonably secure set of branches before my body turned itself off.

Our survival reflexes have improved. A few hours later—it was not quite noon—I woke up suddenly in response to a slight vibration. One of the cat creatures was creeping toward me along another branch.

I didn't want to throw the spear, of course. So I took the offensive, crawling closer to the beast. He snarled and backed up warily. When I was a couple of spear lengths from him I started poking toward his face. Eventually I forced him onto too small a limb, and he crashed to the ground. He lay there a moment, then heaved himself up, growled at the world, and limped away. I went back to my branch and slept a few more hours unmolested.

Gab woke me up with the bad news that Brenda was gone. There was no sign of violence at the spot where she'd settled down though, and we eventually found her hiding in a tree as we had. She'd heard a noise.

We gathered up our dried fish—that it hadn't been disturbed was encouraging—and killed a few fresh ones to carry along for

dinner. Then we moved with some haste down along the river we had followed up so long ago. If all goes well we will be able to duplicate in reverse the earlier sequence: rest tonight on this side of the banyan forest, then push through to the large clearing; spend the night there, and at first light press on to the sea.

Gabriel

The sea. I was never so glad to see water.

The first boat we found was beyond use, burned in two, but the water jugs nearby were unharmed, curiously enough. It's possible some immature *Plathys* had come upon it and not recognized that it was a boat, just a hollow log that had burned partway through. So they may have innocently used it for fuel.

The other boat, farther away from the river, was untouched. If anything, it might be in better shape now than when we left it, since it has been propped up on two logs, hollow side down. It was dryer and harder, and apparently had no insect damage.

Unfortunately, it was too heavy for three people to lift; it had been something of a struggle for all twelve of us. We went back upstream a couple of kilometers to where Maria remembered having seen a stand of saplings. Stripped of branches, they looked like they would make good rollers. We each took an armload. It was dark by the time we got back to the boat.

It might have been prudent to try to launch it in the darkness, and paddle out to comparative safety. But there hadn't been any sign of *Plathys* on this side of the island, and we were exhausted. I stood first watch, and had to trudge around in circles to stay awake. A couple of times I heard something out in the grass, but it never came close. Maria and Brenda heard it on their shifts, but it left before dawn.

At first light we started rolling the boat. A good three hours of hard labor, since when the saplings got into sand they forgot how to be wheels. We dragged it the last hundred meters, one bonecracking centimeter after another. Once it was floating free, we anchored it and sat in the shallow water for a long time, poleaxed by fatigue. It was amazing how much warmer the water was here, just a hundred or so kilometers north of the *Plathy*

island volcanic activity, coupled with distance from the continental shelf drop-off.

We dragged ourselves back to the place we'd slept and found that all our food was gone. Animals; the weapons were still there. Rather than start off with no reserve food, we spent the rest of the morning hunting. A dozen large snakes and seven small animals like *zamri*, but with six legs. We risked a fire to smoke them, which perhaps was not wise. One person guarded the fire while the other two loaded all the jars and then arranged a makeshift vessel in the stern, pegging the largest fur out in a cup shape.

Finally we loaded all the food and weapons aboard and swung up over the side (the outriggers kept us from losing too much water from the stern). We paddled almost hysterically for an hour or so, and then, with the island just a whisper of dark on the horizon, anchored to sleep until the guide stars came out.

Brenda

It was smart of Maria to pick a beefy young athlete as one of her graduate assistants. I don't think that she and I would have stood a chance alone, pushing this heavy old log 250 kilometers. We're all pretty tough and stringy after months of playing caveman, but the forced march has drained us. Last night I paddled more and more feebly until, just before dawn, I simply passed out. It's a good thing Gab was in the rear position. He heard me slump over and grabbed the paddle as it floated by. When the sun got too high to continue, he massaged the knots out of my arms and shoulders, and when I fell asleep again he was doing the same for Maria.

Perhaps we should have delayed our launch long enough to weave a sunshield. It isn't all that hot but it must have some dehydrating effect. And it would be easier to sleep. But Martin was the only one who could weave very well, and he—

Oh my God. My God, we left him for dead and I haven't even thought about him since, since we met up at the river mouth. Now we've left him behind with no boat. He could have been just a day or an hour behind us, and if he was we've murdered him.

Maria

Brenda suddenly burst into tears and started going on about Martin. I gave him up before we left the Plathy island. His route was a mirror image of mine and he was a much faster runner. They must have caught him.

I pointed out to Brenda that if Martin did make it to the coast of the crater lake island, he could probably survive indefinitely with his primitive skills, since it would be fairly easy for one man alone to stay away from the Plathys who occasionally passed through there. Surely he would be intelligent enough to stamp out a regular marking in the sand, easily visible from the satellite. Then the next expedition could rescue him. That fantasy calmed her down a bit. Now she's sleeping.

I'm starting to think we might make it. We have water enough for twenty days and food for half that time, even if we don't catch any fish. Admittedly it's harder to keep a straight course when the guiding stars are behind you, but it shouldn't take us twice as long as the trip south, especially if there are no clouds.

Once we get to the mainland and retrieve the modern weapons, the trek back to the base will be simple. And the year waiting inside the dome will be sybaritic luxury. Real food. Chairs. No bugs. Books. Wonder if I can still read?

Gabriel

Seven days of uneventful routine. On the eighth day I woke up in the afternoon and took a spear up to the bow to stare at the water. I stood up to piss overboard, which sometimes attracts fish, and saw a Plathy swimming straight toward us.

He stopped and treaded water about eight meters away, staring at me and the spear. I called out to him but he didn't answer. Just stared for several minutes in what seemed to be a calculating way. Then he turned his back and swam on, powerful strokes that gave him more speed than we could ever muster.

Could he tip us over? Probably not, with nothing to stand on. Once in the water, though, we'd be no match for one of them. My brain started to run away with fear, after a week of the luxury and

novelty of not being afraid. He could approach underwater and pull us overboard one by one. He could grab an outrigger while we were sleeping and rock us out. He could for God's sake bite a *hole* in the boat!

When the women woke up I told them, and we made the obvious decision to maintain a rotating watch. I wondered privately how much good it would do. I suspected that a Plathy could hold his breath for a long time; if he approached underwater we might not be able to see him until he was right by the boat. Or one might overtake us in darkness. I didn't give voice to any of these specific fears. Neither of them lacks imagination, and they didn't need my scenarios to add to their own private apprehensions.

How much farther? I suspect we'll be making better time from now on.

Maria

I began to have a recurrent dream that we'd somehow got turned around, and were paddling furiously back to the waiting Plathys. This daymare even began invading my waking hours, especially toward dawn, when I was in that vulnerable, suggestible mental state that extreme fatigue and undirected anxiety can bring on.

So when in the first light I saw land, the emotion I felt was speechless apprehension. We'd been paddling eleven days. We *must* have gotten turned around; we couldn't have covered the distance in that time. I stared at it for half a minute before Brenda mumbled something about it being too early to take a break.

Then Gab also saw the faint green line on the horizon, and we chattered on about it for a while, drifting. As it got lighter we could see the purple cones of distant volcanoes, which put my subconscious to rest.

The volcanoes simplified navigation, since I could remember what their relative positions had been on the way out. It looked as if we were going to land 10 or 15 kilometers west of the mouth of the river that led to the base. The question was whether to alter our course off to the right, so as to land closer to the river, or go straight in and walk along the beach. We were safer on the water

but terminally tired of paddling, so we opted for the short approach.

It was little more than an hour before the canoe landed with a solid crunch. We jumped out and immediately fell down. No land legs. I could stand up, but the ground seemed to teeter. For some reason it was a lot worse than it had been on the outward trip. There had been a little more wave action this time, which could account for that. It might also account for the good time we made: some sort of seasonal current.

Using the spears as canes, we practiced walking for a while. When we could stagger pretty well unsupported, we gathered our stuff and started down the beach as quickly as possible. It would be a good idea to find the weapons and dig them up before dark.

Eventually we were making pretty good progress (though when we stopped the ground would still rock back and forth). The musty jungle actually smelled good, reassuring. We ate the last of the smoked snake while hungrily discussing the culinary miracles waiting for us at the base. There was enough food there to last twelve people for more than a year, a precaution against disaster.

We reached the mouth of the river before midday. But when we paced off from the rock to where the weapons were supposed to be buried, we got a nasty surprise: someone had already dug them up. Humus had filled the hole, but there was a definite depression there, and the ground was soft.

Dejected and frightened, we paced on to the next site, and it had also been dug up—but we found three of the exhumed fuel cells lying in the brush. The Plathys wouldn't know how to install them, of course. Even if, as now seemed likely, they had been watching us when we first buried them, they wouldn't have been able to find the hidden studs that had to be pushed simultaneously to open the camouflaged weapons. Even if they somehow got one open, they wouldn't know how to screw in the fuel cell and unsafe it.

We went back to the first site on the off-chance that they might have discarded the weapons, too, since ours weren't superior, in conventional capabilities, to what they would normally carry. That turned out to be a smart move: we found a club and a spear snarled in the undergrowth, still in good working order. (They'd

been crafted of Bruuchian ironwood, and so were impervious to moisture and mold.)

We armed the two and confirmed that they worked. There were probably others hidden more deeply in the brush, but we were too tired to continue the search. We'd been pushing for most of a day, burning adrenaline. The two weapons would be enough to protect us while we slept.

Gabriel

Brenda woke me up delightfully. I was having an interesting dream, and then it wasn't a dream.

I had the last guard shift before dawn. Scouting the perimeter of our site for firewood, I almost stumbled over a slow lizard, about a meter long, and fat. Skinned and cleaned him and had him roasting on a spit by the time the women woke up.

After breakfast, we spent a good two hours searching the area around the weapons pit, spiraling out systematically, but didn't find anything further. Well, it was good luck we even had the two weapons. We were considerably better with spear, knife, and club than we had been when we landed, but probably not good enough for an extended trek through the mainland. Packs of hungry carnivores, even if no Plathys waited in ambush.

Combing the other site did find us two more fuel cells, which should be plenty. Each one is good for more than an hour of continuous firing when new, and none of them was half used up. We could even afford to use the weapons to light fires.

So we started off in pretty high spirits. By noon we weren't quite so springy. One long sleep isn't enough to turn night creatures into day creatures, and though walking is easier than paddling, our leg muscles were weak from disuse. There was a bare rock island in the middle of the broad river; we waded out to it and made camp. That consisted of laying down our furs and collapsing.

Brenda usually takes the first watch, but she couldn't keep her eyes open, so I did odds-and-evens with Maria, and lost. And so I was the one to see the first Plathy.

I was gathering driftwood for the night's fire. I'd been concen-

trating my watch on the nearer bank, the one we'd come from. No telling how long the Plathy had been looking at me, standing quietly on the other side.

Our side was relatively open; compact stands of bamboolike grass every 20 or 30 meters, with only low bushes in between. The other bank was dense jungle, which was why we avoided it. The Plathy was making no special effort to conceal himself but was hard to see in the dappled shade. I continued picking up wood, studying him out of the corner of my eye.

He was an adult male, carrying a spear. That was bad. If he had been a child he might have been on his Walk North, accidentally stumbling on us. An adult had no reason to be here except us, and he wouldn't be here alone.

I didn't recognize him. If he wasn't from the Camchai family, that probably meant they had enlisted the aid of other families, so we might be up against any number. But I couldn't be sure; even in social situations I often got individuals mixed up. Maria was good at telling them apart. I took an armload of wood back to the camp and quietly woke her up and explained what was happening. She walked over to the other side of the island, casually picking up sticks, and took a look. But he was gone.

We had a whispered conference and decided to stay on the island. They would have a hard time rushing us; the river bottom was too muddy for running. And their spears couldn't reach us from either bank.

She's taken over the watch now. Enough talking. Try to sleep.

Brenda

What a terrible night. Nobody woke me for my afternoon watch turn, so I slept almost until dark. Maria said she hadn't awakened me because she was too nervous to sleep anyhow, and explained about Gab seeing the Plathy.

When the sun went down we lit the fire, and Gab joined us. We decided to double the watch—two on, one off, one person with a crazer watching each bank. Maria curled up by the fire and tried to sleep.

They hit us about an hour before midnight, coming from Gab's

side, the near bank. He called out and I ran over.

Spears falling out of the darkness. We had the fire behind us, and so were pretty good targets. Crazers don't make much light; we had to fan them and hope we hit someone. All the time running back and forth sideways, trying to spoil their aim. Maria woke up and I gave her the club crazer, then retired to the other side of the island, under Gab's orders: watch for an "envelopment." But they weren't that sophisticated.

No way to tell how many we killed. The spears came less and less frequently, and then there were rocks, and then nothing. When dawn came, pieces of four or five sliced up Plathy bodies lay on the shore, any number having been washed downstream.

I wish I could feel guilty about it. Two weeks ago, I would have. Instead, I have to admit to a kind of manic glee. We beat them. They snuck up on us and we beat them.

Maria

We burned both crazers down to quarter charge. A little more than half charge on the two backup cells. But I don't expect any more attacks like last night. They aren't dumb.

So much for the First Commandment. We've demonstrated high technology. Some of them must have survived, to go back and tell others about the magic. But we had no choice.

From now on we'll have to assume we're being followed, of course, and be triply careful about ambush setups. That won't be a real problem until the last day or two, traveling with thick jungle on both sides of the river. Why did we have to be so cautious in siting the dome?

Well, it may turn out that we'll be glad it's where it is. What if they follow us all the way there? If they try to encircle the clearing and wait us out, the jungle will get them; we won't have to do a thing. Plathy skills work fine down on their friendly island, but up where the dome is situated a hunting party armed with clubs and spears wouldn't last a week. Free lunch for the fauna.

We have to push on fast. Islands like this one will be common while the river is wide and slow. We'll be fairly safe. When the jungle closes in on both sides, though, the river will become a

narrow twisting cataract. No island protection but its noise might confound Plathy hearing, make it harder for them to ambush us.

At any rate, this is the plan: each day on the plain, cover as much ground as possible, consistent with getting a few hours of sleep each night. Rest up just south of the jungle and then make a forced march, two days to the dome.

Maybe this haste is unnecessary. If the Plathys were their normal, rather sensible selves, they'd cut their losses and go home. But now we have no idea of what's normal. They may harry us until we kill them all. That would be good for the race, leaving it relatively uncontaminated culturally. Bad for us. A few more engagements like last night and we won't have enough power in the crazers to make it through the jungle. Might as well stand by the river and sing blood songs to the hungry lizards.

Gabriel

Five days of no contact, but I can't shake the feeling we're being watched. Have been watched all the way. Now an afternoon and night of rest on this last island, and Maria wants us to push all the way to the dome.

Physically, I suppose we can do it. The terrain isn't difficult, since a game trail parallels the water all the way up. But the game that made the trail are formidable. They gave us plenty of trouble when there were twelve of us. And theoretically no Plathys.

(I wonder about that now, though. Surely someone was watching us back when we buried the weapons. How long had they been following us? They claimed that they never go to the mainland, except for a few brave Walkers, and of course they always tell the truth. About what they remember, anyhow.)

I haven't recorded anything for a long time. Waiting for my state of mind to improve. After the night of the attack I ran out of hope. Things haven't improved but I'm talking to myself to stay awake for the rest of this watch. I think Brenda's doing the same thing. Sitting on the other side of the island staring at the water, mumbling. I should go remind her to pay attention. But I can cover both banks from this side.

Besides, if they're going to hit us, I wish they'd hit us here. Clear

fields of fire all around. Of course they won't; they learn from their mistakes, Maria says.

I'm being paranoid. They're gone. The being-watched feeling, I don't know. Ever since Derek got it I've been a— I've been... loose in the head. Trying to control this—this panic. They look to me for strength, even Maria does, but all I have is muscle, jaw muscle to keep the screams in. When that one swam by us headed for the mainland I knew we were deep in shit.

Derek had religion. We argued long nights about that. What would he be doing now, praying? "*Nuestro Senor que lives en el cielo, alabado sea tu nombre.*" Good spear repellent. I miss him so.

Nobody will ever find this tooth with its feeble beep transmitter. When they come back and find the dome empty, that will be the end of it. Not enough budget for a search through obviously hostile territory. Not enough resources on this planet for anybody to want to exploit it, so no new money to find our teeth. We'll pass into Plathy legend and be forgotten, or distorted beyond recognition.

A good thing for them. If there was anything of use here, we'd be like the Eskimo anthropologists Maria talks about, recording the ways of a race doomed by the fact of recording. So maybe the Plathys will have another million years of untroubled evolution. Maybe they'll learn table manners.

I'm afraid of them but can't be mad at them. Even after Derek. They are what they are and we should have been more careful. Maybe I'm becoming a real xenologist, at this late date. Derek would say I'm trying to compose myself into a state of grace. Before dying.

It infuriated me that he always had answers. All I ever had was questions.

So two days' push and we're safe inside the dome. Food and cube and books and spears bounce off. Maybe I've read too much, written too much; the pattern seems inescapable. We're at death's door Capital Death's Door. If we make it to the dome we'll break the rules.

Cálmate. Calm. Maybe I'm projecting, making patterns. Here there's only real things; cause, effect, randomness, entropy—

your death is like the falling of a leaf, Derek said; like the leaf falling, it's a small tragedy, but necessary. If everything lived forever the universe would fill up in short order.

Mustn't blather. Reality, not philosophy. We rest so we can be alert. If we're alert enough we'll beat the jungle. Beat the Plathys that aren't there. It's all in my head. For the next two days take the head out of the circuit. Only reflex. Smell, listen, watch; react. React fast enough, you live.

Only I keep thinking about Derek. He never knew what hit him.

Brenda

Gab asked me to watch both banks for a while so he could give love to Maria before it got dark. Hard to watch both banks when I want to watch him. Men look so vulnerable from this angle, bouncing; a new perspective for me. I've never been an audience except for watching on the cube. It's different.

Admit I'm jealous of her. She's fifteen years older than I and shows it. But he wants her for his last one. That was obvious in his tone of voice. At some level I think he's as scared as I am.

If he thinks this is his last one he doesn't know much about women. Maria will let me wake him up when our shift is over. If I can wait that long. I've watched him sleeping; he has the refractory period of a twelve-year-old. To be exact, I know from observation that he can do it twice and still get an erection in his sleep. No privacy under our circumstances.

Funny friendly sound, don't hear it like that while you're doing it—what was that? Something move?

Just a lizard, I guess. Nothing now. We've been seeing them the last two days on the jungle side, around dusk and in the firelight. They don't come in the water. What's going to happen tomorrow night, no island, no fire? Don't want to die that way, jumped by a pack of dinosaurs. Nor have my head bitten off by a sentient primitive. I was going to be a grandmother and sit on the porch and tell doctor stories and die with no fuss.

Why won't they attack? I know they're out there, waiting. If they would only come now, I could die that way. I remember the feeling, fifty or a hundred of them against the three of us and our

two crazers. Not a fair fight, perhaps, but God it did feel good, holding our own, epinephrine from head to toe. This waiting and worrying. Light the fire.

Stack the wet wood around to dry. Gives me something to do while they're finishing up. Being quiet for the sake of my sensibilities, or theirs. Just heavier breathing and a faster rhythm of liquid sounds. I've followed that unspoken code, too; we haven't been all three together since the water hole. She's had him seven times since, to my four. To my knowledge. Why am I keeping score? They were made for each other. Iron man, iron woman.

I was in love once or twice and know this is something else. Not just sex; I've been that way before, too. Hysteria is part of it, but not in the old-fashioned womanish sense, the womb taking over. This is a certainty-of-death hysteria, to coin a category. It's different from just fear. It's like, it's like—I don't know. As if you had never tasted water before, or seen colors, and suddenly here is a cold spring or a rainbow. Minus the joy. Just something primal and unlike anything before. Does that make sense? We've been in danger God knows constantly for how long? Not the same. There was always hope. Now we're two days away from total sanctuary and for some reason I know we won't make it.

I remember from psych class a lesson about people who seemed to know they were going to die. Not sick people; soldiers, adventurers, whose sudden violent death seemed to resonate backward in time—they told their friends that somehow they felt that this was it, and by God it was. You can call it coincidence or invoke pragmatic causality—they were nervous and therefore careless and therefore died—but here and now I think there's more to it. Once I'm safe inside the dome I'll publish a retraction. Right now I feel my death as strongly as I feel the need for that man inside of me.

Maria

Somehow we lived through that one.

We'd been in the jungle for perhaps twelve hours, dusk approaching, when a lizard pack hit us, or two packs, from in front and behind. The trail is scarcely two meters wide, which saved us.

The carcasses piled up and impeded their charge. We must have killed forty of them, man-sized or slightly smaller. Not a type we'd seen on the way down.

Were they intelligent enough to coordinate their charge, or is it some kind of instinctive attack pattern? Scary either way. Used up a lot of energy. If it happens a few more times...it happens. No use thinking about it.

At least the action seems to have been good for morale. Both of them have been radiating depression and fear since we started out this morning Reinforcing each other's premonitions of doom. I shouldn't have let her go to him at watch change, or I should have admonished her to fuck, don't talk. It was too much like saying goodbye. I got that feeling from Gab too, last night, but I tried to reassure him. Words.

By my reckoning we have fourteen to eighteen hours to go, depending on how much ground we can cover without light. Decided against torches, of course. The Plathys don't normally hunt at night, but they sure as hell attacked us in the dark.

Natural impulse is to climb a tree and wait for dawn. That would be suicidal. The jungle canopy is thick and supports its own very active ecology. We can't take to the water because the current's too swift, even if we wanted to chance the snakes.

We'll stay within touching distance, Gab in front because he has the best hearing. Brenda hears better than me, so she should bring up the rear, but I think she'll be better off in the middle, feeling protected. Besides, I want to have one of the weapons.

Gabriel

Never another night like that. I wound up firing at every sound, jumpy. But a few times there actually was something waiting in front of us, once something that wasn't a lizard. Big shaggy animal that stood up on its hind legs and reared over us, all teeth and claws and a dick the size of my arm. He was too dumb to know he was dead, and actually kept scrabbling toward us after I cut him off at the knees. If we'd gone a few steps farther before I fired he would have gotten at least me, maybe all of us. The crazer light was almost bright in the pitch blackness, a lurid strobe. I used up

the last of one fuel cell and had to reload by touch.

At least we don't have to worry about the Plathys. Nothing remotely edible could make it through a night like that without energy weapons.

When I mentioned that to Maria, she said not to be too sure. They were tracking us on the jungle side before. Not the same, though. This jungle makes that one look like a park.

Dead tired but moving fast. We're looking for a pink granite outcropping. Fifty paces upstream from it there's a minor trail to the right; the dome clearing is about half a kilometer in. Can't be more than a few hours away.

Brenda

There it is! The rock! Hard to...talk...running...

Maria

Slow down! Careful! That's better. Not a sound now.

Gabriel

Oh, no. Shit, no.

Brenda

They...burned it?

Gabriel

Spears—

Maria

Take his weapon! Get to cover! Here!

Brenda

I—oh!

Maria

So...so this is how it ends. Gab died about ten minutes ago, in the first moment of the attack. A spear in the back of his head. Brenda was hit then too, a spear that went in her shoulder and came out her back. She lived for several minutes, though, and acquitted herself well when the Plathys charged. I think we killed them all, thirty-seven by my count. If there are any left in the jungle they are staying there for the time being.

They must have piled wood up around the dome and kept a bonfire going until the force field overloaded and collapsed. It wasn't engineered for that kind of punishment, I suppose. Obviously.

Little of use left in the ruins. Rations destroyed, fuel cells popped by the heat. There's a toolbox not badly harmed. Nothing around to repair with it, though. Maybe if I dug I could find some rations merely overcooked. But I don't want to stay around to search. Doubt that I'll live long enough to have another meal, anyhow.

My fault. Eleven good people dead, and how many innocent savages, because I wasn't prudent. With that first abrupt life change, the frenzied breeding. I should have ordered us to tiptoe away. Another decade of satellite surveillance and we would have learned which times were safe to come in for close-up study. Now everything is a shambles.

Racial vanity is part of it, I guess, or my vanity. Thinking we could come naked into a heavily armed Stone Age culture and survive by our superior intelligence and advanced perspective. It worked before. But this place is not Obelobel.

I guess all I can do now is be sure a record survives. These teeth might not make it through a Plathy or lizard digestive system. I'll...I'll use the pliers from the tool kit. Leave the teeth here in the ruins. Buried enough so the Plathys can't find them easily. One hell of a prize to bring back from your Walk North.

I have only about a tenth charge left. Brenda used up all of the other before she died. Not enough to get out of the jungle, not even if it were all daylight. One woman alone doesn't have a bloody fucking chance on this world. I'll try the river. Maybe I can find a log that will float me down to the savanna. Then hike to the coast. If I can make it to the beach maybe I can stay alive there for a while. Sleep with one eye open. I don't know. Look for me there. But don't bother to look for too long. The phers.

Sorry, Brenda....

Sorry...Gab. Sweet Gab. Still warm.

Now mine. One jerk. Some blood, some pain. *Tem se garlish.*
'ka.

To: Ahmadou Masire, Coordinator
Selva Sector Recreational Facilities
Confederación Office Building, Suite 100
Bolívar 243 488 739
Selva

From: Federico Santesteban, Publicity Director
Office of Resources Allocation
Chimborazo Interplanetario
Ecuador 3874658
Terra

Dr. Masire:

I hope you will find the enclosed transcript of some use. Your assistant, Sra. Videla, mentioned the possibility of a documentary cube show to generate interest in the hunting trips to Sanchrist IV. Seems to me that if you inject some romance into this you have a natural story: sacrifice, tragedy, brave kids battling against impossible odds.

We could save you some production costs by getting a few Plathys shipped to your studio via our xenological division on Perrin's World. They have a hundred or so there and keep their stock stable by cloning. You'll have to have somebody put together a grant proposal demonstrating that they'll be put to

legitimate scholarly use. Garcia Belaunde at your Instituto Xenológico is a tame one, as you probably know. Have him talk to Leon Jawara at the PW Xenological Exchange Commission. He'll make sure you get the beasts at the right part of their life cycle. Otherwise they'd eat all of your actors.

I tried to pull some strings, but I'm afraid there's no way we can get you permission to take a crew onto the Plathy island itself. That's a xenological preserve now, isolated by a force field, the few remaining Plathys constantly monitored by flying bugs. You can shoot on the mainland, if your actors are as crazy as your hunters, or use the crater lake island. There are a few feral Plathys roaming there, though, so take precautions, no matter what the season. Use a restraining field if that's within your budget, otherwise, regrettably, the smartest thing would be to kill them on sight. Their behavior patterns become erratic if they're separated from family for more than a year.

The search party that followed up on Dr. Rubera's expedition could only find five of the tooth transmitters. There was no trace of Maria Rubera, or any other human remains

A sad story but I think a useful one for your purposes. Gives your expeditions a dramatic historical context.

Let me know if I can be of further service. And by all means send us a copy of the cube, if you decide to go into production.

Your servant,
Federico Santesteban

The Mazel Tov Revolution

This is the story of the □ venerated / □ despised Chaim Itzkhok (check one). And me. And how we □ made 238 worlds safe for democracy / □ really screwed everything up (check another). With twenty reams of paper and an old rock. I know you probably think you've heard the story before. But you haven't heard it all, not by a long way—things like blackmail and attempted murder, however polite, have a way of not getting in the history books. So read on, OK?

It all started out, for me at least, when I was stranded on Faraway a quarter of a century ago. You're probably thinking *you* wouldn't mind getting stranded on Faraway, right? Garden spot of the Confederation? Second capital of humanity? Monument to human engineering and all that, terraformed down to the last molecule. I tell kids what it was like back in '09 and they just shake their heads.

Back then, Faraway was one of those places where you might see an occasional tourist, only because it was one of the places that tourists just didn't go. It was one of the last outposts of George's abortive Second Empire, and had barely supported itself by exporting things like lead and cadmium. Nice poisonous heavy metals whose oxides covered the planet instead of grass. You had to run around in an asbestos suit with an air conditioner on your back, it was so damned close to Rigel.

Still is too damned close, but the way they opaqued the upper atmosphere, they tell me that Rigel is just a baby-blue ball that makes spectacular sunrises and sunsets. I've never been too tempted to go see it, having worked under its blue glare in the old days; wondering how long it'd be before you went sterile, lead underwear notwithstanding, feeling skin cancers sprouting in the short-wave radiation.

I met old Chaim there at the University Club, a run-down bar left over from the Empire days. How I got to that godforsaken place is a story in itself—one I can't tell because the husband is still alive—but I was down and out with no ticket back, dead-ended at thirty.

I was sitting alone in the University Club, ignoring the bartender, nursing my morning beer and feeling desperate, when old Chaim came in. He was around seventy but looked older, all grizzled and seamed, and I started getting ready an excuse in case he was armed with a hard-luck story.

But he ordered a cup of real coffee and when he paid, I sneaked a look at his credit flash. The number was three digits longer than mine. Not prejudiced against millionaires, I struck up a conversation with him.

There was only one opening gambit for conversation on Far-away, since the weather never changed and there were no politics to speak of: What the hell are you doing here?

"It's the closest place to where I want to go," he said, which was ridiculous. Then he asked me the same, and I told him, and we commiserated for a few minutes on the unpredictability of the other sex. I finally got around to asking him exactly where it was he wanted to go.

"It's interesting enough," he said. Two other people had come into the bar. He looked at them blandly. "Why don't we move to a table?"

He got the bartender's attention and ordered another cup of coffee, and must have seen my expression—the tariff on two cups of coffee would keep me drunk for a week—and ordered me up a large jar of beer. We carried them to a table and he switched on the sound damper, which was the kind that works both ways.

"Can I trust you to keep a secret?" He took a cautious sip of his

coffee.

"Sure. One more won't hurt."

He looked at me for a long time. "How would you like to get a share of a couple of million CU's?"

A ticket back cost about a hundred thousand. "That depends on what I'd have to do." I wouldn't have, for instance, jumped off a high building into a vat of boiling lead. Boiling water, yes.

"I can't say, exactly, because I really don't know. There may be an element of danger, there may not be. Certainly a few weeks of discomfort."

"I've had several of those, here."

He nodded at the insignia on my fading fatigue jacket. "You're still licensed to pilot?"

"Technically."

"Bonded?"

"No, like I told you, I had to skip out. My bond's on Perrin's World. I don't dare—"

"No problem, really. This is a system job." You need to be bonded for interstellar flight, but planet-to-planet, within a stellar system, there's not that much money involved.

"System job? Here? I didn't know Rigel had any other—"

"Rigel has one other planet, catalogued as Biarritz. It never got chartered or officially named because there's nothing there."

"Except something you want."

"Maybe something a lot of people want."

But he wouldn't tell me any more. We talked on until noon, Chaim feeling me out, seeing whether he could trust me, whether he wanted me as a partner. There were plenty of pilots stranded on Faraway; I later found out that he'd talked to a half dozen or so before me.

We were talking about children or some damn thing when he suddenly sat up straight and said, "All right. I think you'll be my pilot."

"Good...now, just what—"

"Not yet, you don't need to know yet. What's your credit number?"

I gave it to him and he punched out a sequence on his credit flash. "This is your advance," he said; I checked my flash and,

glory, I was fifty thousand CU's richer. "You get the same amount later, if Biarritz doesn't pan out. If it works, you'll also get a percentage. We'll talk about that later."

The other fifty thousand was all I wanted—get back to civilization and I could hire a proxy to go to Perrin and rescue my bond. Then I'd be in business again.

"Now. The first thing you have to do is get us a ship. I'll arrange the financing." We left the bar and went to Faraway's only public (or private) stenographer, and he made out a letter of credit for me.

"Any kind of a ship will do," he said as I walked him back to his hotel. "Anything from a yacht to a battlewagon. We just have to get there. And back."

On any civilized world, I could have stepped into a booth and called Hartford; then strolled down to the nearest port and picked up a vessel: local, interplanetary, or, if I was bonded and could wait a day or two, interstellar. But Faraway was Faraway, so it was a little more complicated.

Let me digress, in case you were born less than twenty years ago and fell asleep in history class.

Back then, we had two governments: the Confederation we all know and love, and New Hartford Transportation Rentals, Ltd. There was nothing on paper that connected the Confederation with Hartford, but in reality they were as intertwined as the skeins of a braid.

New Hartford Transportation Rentals, Ltd., owned virtually all of the basic patents necessary for interstellar travel as well as every starship, including the four clunkers left over from George VIII's disastrous imperialistic experiment.

Tired of your planet? Seek religious freedom, adventure, fresh air? Want to run from creditors? Get enough people together and Hartford would lease you a ship—for an astronomical sum, but at very generous rates. In fact, the first couple of generations hardly paid anything at all (while the interest built up), but then—

Talk about the sins of the fathers coming home to roost! Once a colony began to be a going concern, Hartford was empowered to levy a tax of up to fifty percent on every commercial transaction. And Hartford would carefully keep the tax down to a level where

only the interest on the loan was being paid—the principal resting untouched, to provide Hartford an income in perpetuity. It was a rigged game (enforced by the Confederation), and everybody knew it. But it was the only game in town.

Hartford had a representative on every planet, and they kept him fueled with enough money so that he was always the richest, and usually the most influential, citizen of the planet. If a planetary government tried to evolve away from the rapacious capitalism that guaranteed Hartford a good return on its investment, their representative usually had enough leverage to put it back on the right road.

There were loopholes and technicalities. Most planets didn't pass the Hartford tax on directly, but used a sliding income tax, so the rich would get poorer and the poor, God bless them, would go home and make more taxpayers rather than riot in the streets.

If you ever patronized the kind of disreputable tavern that caters to pilots and other low types, you may have heard them singing that ancient ballad, "My Heart Belongs to Mother, But Hartford Owns My Ass."

Hartford owned that fundamental part of everybody on Faraway, too. But that didn't mean they'd supplied Faraway with a nice modern spaceport, bristling with ships of all sizes and ranges. No, just the bi-weekly vessel from Steiner that dropped off supplies and picked up some cadmium.

I had to admit there wasn't much reason for Faraway to have a short-run, plain old interplanetary ship—what good would it be? All you could do with it would be to orbit Faraway—and it looked bad enough from the *ground*—or take a joyride out to Biarritz. And there were more entertaining ways to throw away your money, even on Faraway.

It turned out that there actually was one interplanetary ship on Faraway, but it was a museum piece. It had been sitting for two hundred years, the *Bonne Chance*, the ship Biarritz herself had used to survey the clinker that retained her name by default. It was being held for back taxes, and we picked it up for six figures.

Then the headaches began. Everything was in French—dial markings, instruction manual, log. I got a dictionary and walked around with an indelible pencil, relabeling; and Chaim and I spent

a week of afternoons and evenings translating the manual.

The fusion engine was in good shape—no moving parts bigger than a molecule—but the rest of the ship was pretty ragged. Faraway didn't have much of an atmosphere, but it was practically pure oxygen, and *hot*. The hull was all pitted and had to be reground. The electronic components of the ship had been exposed to two hundred years of enough ionizing radiation to mutate a couple of fruit flies into a herd of purple cattle. Most of the guidance and communications gimcrackery had to be repaired or replaced.

We kept half the drifter population of Faraway—some pretty highly trained drifters, of course—employed for over a week, hammering that antique wreck into some kind of shape. I took it up alone for a couple of orbits and decided I could get it twenty AU's and back without any major disaster.

Chaim was still being the mystery man. He gave me a list of supplies, but it didn't hold any clue as to what we were going to do once we were on Biarritz: just air, water, food, coffee, and booze enough for two men to live on for a few months. Plus a prefab geodesic hut for them to live in.

Finally, Chaim said he was ready to go and I set up the automatic sequencing, about two hours of systems checks that were supposed to assure me that the machine wouldn't vaporize on the pad when I pushed the *Commence* button. I said a pagan prayer to Norbert Weiner and went down to the University Club for one last round or six. I could afford better bars, with fifty thousand CU's on my flash, but didn't feel like mingling with the upper classes.

I came back to the ship a half-hour before the sequencing was due to end, and Chaim was there, watching the slaves load a big crate aboard the *Bonne Chance*. "What the hell is that?" I asked him.

"The Mazel Tov papers," he said, not taking his eyes off the slaves.

"Mazel Tov?"

"It means good luck, maybe good-bye. Doesn't translate all that well. If you say it like this"—and he pronounced the words with a sarcastic inflection—"it can mean 'good riddance' or 'much

good shall it do you.' Clear?"

"No."

"Good." They finished loading the crate and sealed the hold door. "Give me a hand with this." It was a gray metal box that Chaim said contained a brand-new phased-tachyon transceiver.

If you're young enough to take the phased-tachyon process for granted, just step in a booth and call Sirius, I should point out that when Chaim and I met, they'd only had the machines for a little over a year. Before that, if you wanted to communicate with someone light-years away, you had to write out your message and put it on a Hartford vessel, then wait around weeks, sometimes months, while it got shuffled from planet to planet (at Hartford's convenience) until it finally wound up in the right person's hands.

Inside, I secured the box and called the pad authorities, asking them for our final mass. They read it off and I punched the information into the flight computer. Then we both strapped in.

Finally the green light flashed. I pushed the *Commence* button down to the locked position, and in a few seconds the engine rumbled into life. The ship shook like the palsied old veteran that it was, and climbed skyward trailing a cloud of what must have been the most polluting exhaust in the history of transportation: hot ionized lead, slightly radioactive. Old Biarritz had known how to economize on reaction mass.

I'd programmed a quick-and-dirty route, one and a half G's all the way, flip in the middle. Still it was going to take us two weeks. Chaim could have passed the time by telling me what it was all about, but instead he just sat around reading—*War and Peace* and a tape of Medieval Russian folk tales—every now and then staring at the wall and cackling.

Afterwards, I could appreciate his fetish for secrecy (though God knows enough people were in on part of the secret already). Not to say I might have been tempted to double-cross him. But his saying a couple of million were involved was like inviting someone to the Boston Tea Party, by asking him if he'd like to put on a loincloth and help you play a practical joke.

So I settled down for two weeks with my own reading, earning my pay by pushing a button every couple of hours to keep a continuous systems check going. I could have programmed the

button to push itself, but hell...

At the end of two weeks, I did have to earn my keep. I watched the "velocity relative to destination" readout crawl down to zero and looked out the viewport. Nothing.

Radar found the little planet handily enough. We'd only missed it by nine thousand and some kilometers; you could see its blue-gray disc if you knew where to look.

There's no trick to landing a ship like the *Bonne Chance* if you have a nice heavy planet. It's all automated except for selecting the exact patch of earth you want to scorch (port authorities go hard on you if you miss the pad). But a feather-light ball of dirt like Biarritz is a different proposition—there just isn't enough gravity, and the servomechanisms don't respond fast enough. They'll try to land you at the rock's center of mass, which in this case was underneath forty-nine kilometers of solid basalt. So you have to do it yourself, a combination of radar and dead reckoning—more a docking maneuver than a landing.

So I crashed. It could happen to anybody.

I was real proud of that landing at first. Even old Chaim congratulated me. We backed into the surface at less than one centimeter per second, all three shoes touching down simultaneously. We didn't even bounce.

Chaim and I were already suited up, and all the air had been evacuated from the ship; standard operating procedure to minimize damage in case something did go wrong. But the landing had looked perfect, so we went on down to start unloading.

What passes for gravity on Biarritz comes to barely one-eightieth of a G. Drop a shoe and it takes it five seconds to find the floor. So we half-climbed, half-floated down to the hold, clumsy after two weeks of living in a logy G-and-a-half.

While I was getting the hold door open, we both heard a faint bass moan, conducted up from the ground through the landing shoes. Chaim asked whether it was the ground settling; I'd never heard it happen before, but said that was probably it. We were right.

I got the door open and looked out. Biarritz looked just like I'd expected it to: a rock, a pockmarked chunk of useless rock. The only relief from the grinding monotony of the landscape was the

silver splash of congealed lead directly below us.

We seemed to be at a funny angle. I thought it was an optical illusion—if the ship hadn't been upright on landing, it would have registered on the attitude readout. Then the bright lead splash started moving, crawling away under the ship. It took me a second to react.

I shouted something unoriginal and scrambled for the ladder to the control room. One short blip from the main engine and we'd be safely away. Didn't make it.

The situation was easy enough to reconstruct, afterwards. We'd landed on a shelf of rock that couldn't support the weight of the *Bonne Chance*. The sound we had heard was the shelf breaking off, settling down a few meters, canting the ship at about a ten-degree angle. The force of friction between our landing pads and the basalt underfoot was almost negligible, in so little gravity, and we slid downhill until we reached bottom, and then gracefully tipped over. When I got to the control room, after quite a bit of bouncing around in slow-motion, everything was sideways and the controls were dead, dead, dead.

Chaim was lively enough, shouting and sputtering. Back in the hold, he was buried under a pile of crates, having had just enough time to unstrap them before the ship went over. I explained the situation to him while helping him out.

"We're stuck here, eh?"

"I don't know yet. Have to fiddle around some."

"No matter. Inconvenient, but no matter. We're going to be so rich we could have a fleet of rescuers here tomorrow morning."

"Maybe," I said, knowing it wasn't so—even if there were a ship at Faraway, it couldn't possibly make the trip in less than ten days. "First thing we have to do, though, is put up that dome." Our suits weren't the recycling kind; we had about ten hours before we had to start learning how to breathe carbon dioxide.

We sorted through the jumble and found the various components of the pop-up geodesic. I laid it out on a piece of reasonably level ground and pulled the lanyard. It assembled itself very nicely. Chaim started unloading the ship while I hooked up the life-support system.

He was having a fine time, kicking crates out the door and

watching them float to the ground a couple of meters below. The only one that broke was a case of whiskey—every single bottle exploded, damn it, making a cloud of brownish crystals that slowly dissipated. So Biarritz was the only planet in the universe with a bonded-bourbon atmosphere.

When Chaim got to *his* booze, a case of gin, he carried it down by hand.

We set up housekeeping while the dome was warming. I was still opening boxes when the bell went off, meaning there was enough oxygen and heat for life. Chaim must have had more trust in automatic devices than I had; he popped off his helmet immediately and scrambled out of his suit. I took off my helmet to be sociable, but kept on working at the last crate, the one Chaim had said contained "the Mazel Tov papers."

I got the top peeled away and looked inside. Sure enough, it was full of paper, in loose stacks.

I picked up a handful and looked at them. "Immigration forms?"

Chaim was sitting on a stack of food cartons, peeling off his suit liner. "That's right. Our fortune "

" 'Mazel Tov Immigration Bureau,' " I read off one of the sheets. "Who—"

"You're half of it. I'm half of it. Mazel Tov is the planet under your feet." He slipped off the box. "Where'd you put our clothes?"

"What?"

"This floor's cold."

"Uh, over by the kitchen." I followed his naked wrinkled back as he clumped across the dome. "Look, you can't just...*name* a planet..."

"I can't, eh?" He rummaged through the footlocker and found some red tights, struggled into them. "Who says I can't?"

"The Confederation! Hartford! You've got to get a charter."

He found an orange tunic that clashed pretty well and slipped it over his head. Muffled: "So I'm going to get a charter."

"Just like that."

He started strapping on his boots and looked at me with amusement. "No, not 'just like that.' Let's make some coffee." He filled two cups with water and put them in the heater.

"You can't just charter a rock with two people on it."

"You're right. You're absolutely right." The timer went off. "Cream and sugar?"

"Look—no, black—you mean to say you printed up some fake—"

"Hot." He handed me the cup. "Sit down. Relax. I'll explain."

I was still in my suit, minus the helmet, so sitting was no more comfortable than standing. But I sat.

He looked at me over the edge of his cup, through a veil of steam rising unnaturally fast. "I made my first million when I was your age."

"You've got to start somewhere."

"Right. I made a million and paid eighty-five percent of it to the government of Nueva Argentina, who skimmed a little off the top and passed it on to New Hartford Transportation Rentals, Ltd."

"Must have hurt."

"It made me angry. It made me think. And I did get the germ of an idea." He sipped.

"Go on."

"I don't suppose you've ever heard of the Itzkhok Shipping Agency."

"No...it probably would have stuck in my mind."

"Very few people have. On the surface, it's a very small operation. Four interplanetary ships, every one of them smaller than the *Bonne Chance*. But they're engaged in interstellar commerce."

"Stars must be pretty close together."

"No...they started about twenty years ago. The shortest voyage is about half over. One has over a century to go."

"Doesn't make any sense."

"But it does. It makes sense on two levels." He set down the cup and laced his fingers together.

"There are certain objects whose value almost has to go up with the passage of time. Jewelry, antiques, works of art. These are the only cargo I deal with. Officially."

"I see. I think."

"You see half of it. I buy these objects on relatively poor planets and ship them to relatively affluent ones. I didn't have any trouble

getting stockholders. Hartford wasn't too happy about it, of course."

"What did they do?"

He shrugged. "Took me to court. I'd studied the law, though, before I started Itzkhok. They didn't press too hard—my company didn't make one ten-thousandth of Hartford's annual profit—and I won."

"And made a credit or two."

"Some three billion, legitimate profit. But the important thing is that I established a concrete legal precedent where none had existed before."

"You're losing me again. Does this have anything to do with..."

"Everything, patience. With this money, and money from other sources, I started building up a fleet. Through a number of dummy corporations...buying old ships, building new ones. I own or am leasing some two thousand ships. Most of them are loaded and on the pad right now."

"Wait, now." Economics was never my strong suit, but this was obvious. "You're going to drive your own prices down. There can't be that big a market for old paintings and—"

"Right, precisely. But most of these ships aren't carrying such specialized cargo. The closest one, for instance, is on Tangiers, aimed for Faraway. It holds nearly a hundred thousand cubic meters of water."

"Water..."

"Old passenger liner, flooded the damn thing. Just left a little room for ice expansion, in case the heating—"

"Because on Faraway—"

"—on Faraway there isn't one molecule of water that men didn't carry there. They recycle every drop but have to lose one percent or so annually."

"Tonight or tomorrow I'm going to call up Faraway and offer to sell them 897,000 kilograms of water. At cost. Delivery in six years. It's a long time to wait, but they'll be getting it for a hundredth of the usual cost, what Hartford charges."

"And you'll lose a bundle."

"Depends on how you look at it. Most of my capital is tied up in small, slow spaceships; I own some interest in three-quarters

of the interplanetary vessels that exist. If my scheme works, all of them will double in value overnight.

"Hartford, though, is going to lose more than a bundle. There are 237 other planets, out of 298, in a position similar to Faraway's. They depend on Hartford for water, or seed, or medical supplies, or something else necessary for life."

"And you have deals set up—"

"For all of them, right. Under-bidding Hartford by at least a factor of ten." He drank off the rest of his coffee in a gulp.

"What's to stop Hartford from underbidding *you*?"

"Absolutely nothing." He got up and started preparing another cup. "They'll probably try to, here and there. I don't think many governments will take them up on it."

"Take Faraway as an example. They're in a better position than most planets, as far as their debt to Hartford, because the Second Empire financed the start of their colonization. Still, they owe Hartford better than ten billion CU's—their annual interest payment comes to several hundred million.

"They keep paying it, not because of some abstract obligation to Hartford. Governments don't have consciences. If they stopped paying, of course, they'd dry up and die in a generation. Until today, they didn't have any choice in the matter."

"So what you're doing is giving all of those planets a chance to welsh on their debts."

"That bothers you?" He sat back down, balanced the cup on his knee.

"A little. I don't love Hartford any more than—"

"Look at it this way. My way. Consider Hartford as an arm of the government, the Confederation."

"I've always thought it was the other way around."

"In a practical sense, yes. But either way. A government sends its people out to colonize virgin lands. It subsidizes them at first: once the ball is rolling, it collects allegiance and taxes.

"The 'debt' to Hartford is just a convenient fiction to justify taking these taxes."

"There are services rendered, though. Necessary to life."

"Rendered and paid for, separately. I'm going to prove to the 'colonies' that they can provide these services to each other. It will

be even easier once Hartford goes bankrupt. There'll be no monopoly on starships. No Confederation to protect patents."

"Anarchy, then."

"Interesting word. I prefer to call it revolution...but yes, things will be pretty hectic for a while."

"All right. But if you wanted to choreograph a revolution, why didn't you pick a more comfortable planet to do it from? Are you just hiding?"

"Partly that. Mostly, though, I wanted to do everything legally. For that, I needed a very small planet without a charter."

"I'm lost again." I made myself another cup of coffee and grieved for the lack of bourbon. Maybe if I went outside and took a deep breath...

"You know what it takes to charter a planet?" Chaim asked me.

"Don't know the numbers. Certain population density and high enough gross planetary product."

"The figures aren't important. They look modest enough on paper. The way it works out, though, is that by the time a planet is populated enough and prosperous enough to get its independence, it's almost guaranteed to be irretrievably in debt to Hartford."

"That's what all those immigration forms are for. Half of those stacks are immigration forms and the other half, limited powers of attorney. I'm going to claim this planet, name it Mazel Tov, and accept my own petition for citizenship on behalf of 4,783 immigrants. Then I make one call, to my lawyer." He named an Earth-based interplanetary law firm so well-known that even I had heard of it.

"They will call about a hundred of these immigrants, each of whom will call ten more, then ten more, and so on. All prearranged. Each of them then pays me his immigration fee."

"How much is that?"

"Minimum, ten million CU's."

"God!"

"It's a bargain. A new citizen gets one share in the Mazel Tov Corporation for each million he puts in. In thirty minutes MTC should have almost as much capital behind it as Hartford has."

"Where could you find four thousand—"

"Twenty years of persuasion. Of coordination. I've tried to approach every living man of wealth whose fortune is not tied up with Hartford or the Confederation. I've showed them my plan—especially the safeguards on it that make it a low-risk, high-return investment—and every single one of them has signed up."

"Not one betrayal?"

"No—what could the Confederation or Hartford offer in return? Wealth? Power? These men already have that in abundance.

"On the other hand, I offer them a gift beyond price: independence. And incidentally, no taxes, ever. That's the first article of the charter."

He let me absorb that for a minute. "It's too facile," I said. "If your plan works, everything will fall apart for the Confederation and Hartford—but look what we get instead. Four-thousand—some independent robber barons, running the whole show. That's an improvement?"

"Who can say? But that's revolution: throw the old set of bastards out and install your own set. At least it'll be different. Time for a change."

I got up. "Look, this is too much, too fast. I've got to think about it. Digest it. Got to check out the ship, too."

Chaim went along with me halfway to the air lock. "Good, good. I'll start making calls." He patted the transceiver with real affection. "Good thing this baby came along when it did. It would have been difficult coordinating this thing, passing notes around. Maybe impossible."

It didn't seem that bloody easy, even with all those speedy little tachyons helping us. I didn't say anything.

It was a relief to get back into my own element, out of the dizzying fumes of high finance and revolution. But it was short-lived.

Things started out just dandy. The reason the control board was dead was that its cable to the fuel cells had jarred loose. I plugged it back in and set up a systems check. The systems check ran for two seconds and quit. What was wrong with the ship was number IV-A-1-a. It took me a half-hour to find the manual, which had slid into the head and nestled up behind the commode.

"IV" was fusion power source. "IV-A" was generation of

magnetic field for containment thereof. "IV-A-1" was disabilities of magnetic field generator. And "IV-A-1-a," of course, was permanent disability. It had a list of recommended types of replacement generators.

Well, I couldn't run down to the store and pick up a generator. And you can't produce an umpty-million-gauss fusion mirror by rubbing two sticks together. So I kicked Mile. Biarritz's book across the room and went back to the dome.

Chaim was hunched over the transceiver, talking to somebody while he studied his own scribblings in a notebook.

"We're stuck here," I said.

He nodded at me and kept up the conversation. "—that's right. Forty thousand bushels, irradiated, for five hundred thousand CU's...so *what?* So it's a gift. It's guaranteed. Delivery in about seven years, you'll get details...all right, fine. A pleasure to do business. Thank *you*, sir."

He switched off and leaned back and laughed. "They all think I'm crazy!"

"We're stuck here," I said again.

"Don't worry about it, don't *worry*," he said, pointing to an oversized credit flash attached to the transceiver. It had a big number on it that was constantly changing, going up. "That is the total assets of Mazel Tov Corporation." He started laughing again.

"Minims?"

"No, round credits."

I counted places. "A hundred and twenty-eight billion...credits?"

"That's right, right. You want to go to Faraway? We'll have it *towed* here."

"A hundred and twenty-nine billion?" It was really kind of hard to grasp.

"Have a drink —celebrate!" There was a bowl of ice and a bottle of gin on the floor beside him. God, I hate gin.

"Think I'll fix a cup of tea." By the time I'd had my cup, cleaned up, and changed out of my suit, Chaim was through with his calls. The number on the credit flash was up to 239,605,967,000 and going up slowly.

He took his bottle, glass, and ice to his bunk and asked me to start setting up the rescue mission.

I called Hartford headquarters on Earth. Six people referred me to their superiors and I wound up talking to the Coordinator of Interstellar Transit himself. I found out that bad news travels fast.

"Mazel Tov?" his tinny voice said. "I've heard of you, new planet out by Rigel? Next to Faraway?"

"That's right. We need a pickup and we can pay."

"Oh, that's not the problem. Right now there just aren't any ships available. Won't be for several months. Maybe a year."

"What? We only have three months' worth of air!" By this time Chaim was standing right behind me, breathing gin into my ear.

"I'm really very sorry. But I thought that by the time a planet gets its charter, it should be reasonably self-sufficient."

"That's murder!" Chaim shouted.

"No, sir," the voice said. "Just unfortunate planning on your part. You shouldn't have filed for—" Chaim reached over my shoulder and slapped the switch off, hard. He stomped back to his bunk—difficult to do with next to no gravity—sat down and shook some gin into his glass. He looked at it and set it on the floor.

"Who can we bribe?" I asked.

He kept staring at the glass. "No one. We can try, but I doubt that it's worth the effort. Not with Hartford fighting for its life. Its corporate life."

"I know lots of pilots we could get, cheap."

"Pilots," Chaim said without too much respect.

I ignored the slur. "Yeah. Hartford programs the main jump. Nobody'd get a jump to Rigel."

We sat in silence for a while, the too-sober pilot and the Martian-Russian Jew who was the richest person in the history of mankind. Less than too sober.

"Sure there's no other ship on Faraway?"

"I'm sure," I said. "Took me half a day to find someone who remembered about the *Bonne Chance*."

He considered that for a minute. "What does it take to build an interplanetary ship? Besides money."

"What, you mean could they build one on Faraway?"

"Right."

"Let me see." Maybe. "You need an engine. A cabin and life

support stuff. Steering jets or gyros. Guidance and commo equipment."

"Well?"

"I don't know. The engine would be the hard part. They don't have all that much heavy industry on Faraway."

"No harm in finding out."

I called Faraway. Talked to the mayor. He was an old pilot (having been elected by popular vote) and I finally reached him at the University Club, where he was surrounded by other old pilots. I talked to him about engineering. Chaim talked to him about money. Chaim shouted and wept at him about money. We made a deal.

Faraway having such an abundance of heavy metals, the main power generator for the town, the only settlement on the planet, was an old-fashioned fission generator. We figured out a way they could use it.

After a good deal of haggling and swearing, the citizens of Faraway agreed to cobble together a rescue vehicle. In return, they would get control of forty-nine percent of the stock of Mazel Tov Corporation.

Chaim was mad for a while, but eventually got his sense of humor back. We had to kill two months with six already-read books and a fifty-bottle case of gin. I read *War and Peace* twice. The second time I made a list of the characters. I made crossword puzzles out of the characters' names. I learned how to drink gin, if not how to like it. I felt like I was going slowly crazy—and when the good ship *Hello There* hove into view, I knew I'd gone 'round the bend.

The *Hello There* was a string of fourteen buildings strung along a lattice of salvaged beams; a huge atomic reactor pushing it from the rear. The buildings had been uprooted whole, life support equipment and all, from the spaceport area of Faraway. The first building, the control room, was the transplanted University Club, Olde English decorations still intact. There were thirty pairs of wheels along one side of the "vessel," the perambulating shantytown.

We found out later that they had brought along a third of the planet's population, since most of the buildings on Faraway were

without power and therefore uninhabitable. The thing (I still can't call it a ship) had to be put on wheels because they had no way to crank it upright for launching. They drove it off the edge of a cliff and pulled for altitude with the pitch jets. The pilot said it had been pretty harrowing, and after barely surviving the landing I could marvel at his power of understatement.

The ship hovered over Mazel Tov with its yaw jets and they lowered a ladder for us. Quite a feat of navigation. I've often wondered whether the pilot could have done it sober.

The rest, they say, is history. And current events. As Chaim had predicted, Hartford went into receivership, MTC being the receiver. We did throw out all of the old random bastards and install our own hand-picked ones.

I shouldn't bitch. I'm still doing the only thing I ever wanted to do. Pilot a starship; go places, do things. And I'm moderately wealthy, with a tenth-share of MTC stock.

It'd just be a lot easier to take, if every ex-bum on Faraway didn't have a hundred times as much. I haven't gone back there since they bronzed the University Club and put it on a pedestal.

Essays

Vietnam and Other Alien Worlds

Every fall semester, I teach workshops in science fiction and genre writing at MIT. It's an interesting environment, as you might imagine: most of the students are hyperintelligent, hyperactive, unpredictable, and not overburdened with social graces. Last semester one of them asked me, out of the blue but not completely irrelevant to the classroom context, "How many people did you kill in Vietnam?"

I don't think anybody had asked me that in twenty years. My pacifist sympathies are pretty obvious, at least to my friends and most of my students—even to most of my readers, I hope. (Reading is funny, though; a novel is a projection test. People have written me about *The Forever War*, for instance, praising it for being anti-military, which I think is simplistic, or pro-war, indicating a lack of reading skills—and in one case, even for being anti-Semitic, which I'm still trying to figure out.)

How many did I kill in Vietnam? Technically, the answer to the question is "none." (In fact, I once refused a direct order to kill a man, which is another story.) But the actual answer, as far as the

victims themselves were concerned, is twenty or thirty people, North Vietnamese Regular Army troops. Maybe more. The next question, which my student refrained from asking, is "How did you feel about it?" And the terrible, true answer is "Neutral."

That requires some amplification. In real life, a person who kills twenty or thirty people and feels neutral about it will cop an insanity plea, go to jail, and get a best-seller out of the experience. I've only done one of these things.

Actually, I never killed anybody in the sense of pointing a weapon at him and pulling the trigger. In fact, I tried to forestall the necessity of finding out whether I could or would do that, at several levels.

First, I tried to register as a conscientious objector. The draft board required a letter from a minister. Atheists don't have ministers, though, and I was politically naive enough to let it go at that. (A year later, the law was challenged in the courts and of course was declared unconstitutional.) I tried for alternate service in the Peace Corps, preferring six years digging ditches in Africa to one, digging foxholes, in Vietnam, and got drafted while the papers were being pushed.

In response to a bulletin board notice at Basic Training camp, I waved my physics degree at the Army and offered to sign up for four years of nuclear power plant operation. True, I'd have to spend two years, maybe three, in a radioactive underground bunker in Antarctica, but again, that sounded better than the bunkers in Vietnam. They said I was "overqualified" for the position.

Finally, sent to Vietnam, I found that you could volunteer to be an unarmed combat medic, or assistant medic, and tried to be reassigned. But they said they didn't need medics; they needed combat engineers. When I finally got to the field, I told the sergeant that I couldn't kill anyone. He said, in effect, "Okay. Just carry this weapon and see what happens."

What does all this have to do with science fiction? There is a connection. Because I got through the war with a clean conscience, I didn't realize—or admit to myself—that I had killed those twenty or thirty people until long after they were dead. You could be fanciful and say they were for a while simultaneously

dead and not dead, like Schrödinger's Cat. But what generated the paradox was not quantum mechanics. It was a very science-fictional aspect of modern warfare.

Let me digress a little bit about science fiction. You can't compel any two scholars, or any two readers, to agree on a definition of science fiction, even though the energy expended on arguing over it since Hugo Gernsback's day would power a space ship to the Moon. Most people would be willing to concede that it has something to do with science, and something to do with human nature—and here's a list of two hundred exceptions to whatever you were going to say.

Well, the science part is just wrong, as is occasionally pointed out, even if you first disqualify stories set in the future that have only to do with history, religion, politics, or other nonscientific stuff. With few and interesting exceptions, even "hard" science fiction deals not with science but with technology, which relates to humanity in a totally different way. In the physical sciences, if you are limited to a natural human language you can only approximate truth; the actual verities have to be expressed in the various dialects of mathematics. As the life sciences move into smaller and more subtle realms, this becomes true for them as well. Even the behavioral sciences move away from natural language as they evolve toward precision, or at least the appearance of it. So it's extremely difficult to write a science fiction story *about science* that has both literary value and scientific rigor.

Technology is another matter. Plenty of cold numbers and equations are used up in design and manufacture, but a finished product radiates a kind of secondary humanity, because it was designed for human needs. We sense this radiation even when we're not sure of the thing's function, as is often the case with obscure medical or scientific equipment, or the arcane utensils of the chef, the mechanic, the artisan—and we become nervous around artifacts that are patently anti-functional. Dadaist sculptors and their descendants have capitalized on this tension, and there's a comical avatar of it in the Boston Museum of Science: a machine the size of a small room that is constantly busy, with hundreds of moving parts, and no observable function whatsoever. It's interesting to watch people watching it. They giggle, and

point things out to each other: watch what happens when the ball gets to the bottom of this spiral ramp. See? Now the bell's gonna go off.

This childlike, more or less *boy*-like, fascination with machines is a dominant motif in science fiction, especially the subgenre of military sf. Can you think of a single military sf story of any length that doesn't describe, usually in loving detail, the tools of the future soldier's trade? I can't offhand, though it's such an obvious direction for a story that I'd be surprised if it hasn't been done more than once. But I'm no expert; I don't often read military sf novels any more, or mainstream military novels, for that matter. They don't seem to speak to my experience.

The machines, though Like most American boys of my generation and previous ones, I had a childhood dominated by weapons-oriented play. Cowboys and Indians, cops and robbers, soldiers. Some enlightened parents nowadays try to prevent their children from acting out these unhealthy fantasies; I would be inclined to do the same, if I were a parent. But I suspect that prohibition, predictably, just makes it that much sweeter when he sneaks out to do it in secret.

When he grows up somewhat—assuming history cooperates—and steps off some olive-drab bus to get his head shaved, his eardrums bruised by a surly sergeant, and his identity excised in a hundred large and small ways, the Army does have one positive thing to offer the confused man-child: guns that actually shoot. That's no small boon for the majority, who never handled the country boy's .22 or the inner-city boy's zipgun. I was not exactly a boy, having been sheltered from the draft by academe up to the ancient age of 24, but I liked this new thing of shooting almost as much as the impressionable kids did. Rifle marksmanship was a physical and mental challenge, and the occasional experience with more exotic weapons—bazooka, machine gun, grenade launcher—was a flamboyant exercise in pyrotechnic power. I don't recall even once contemplating what these things would do to human flesh, which I suppose is what psychologists call "avoidance," but until I actually received orders for Vietnam, I was sure the Army would find a computer, or at least a typewriter, to put me behind.

Instead, wading through the snow of a hard Missouri winter, they taught us how to construct hasty bridges, build roads, tie knots, use a jackhammer and a Skil saw, and various other things that the book says an Army Engineer should be able to do. We never even saw the only things we would, in a few months, actually be using in the jungle heat: pick, shovel, axe, machete, chain saw, plastic explosive, M-16, napalm.

People think that napalm is something dropped from airplanes. It's not always. But let me not get ahead of myself.

It's an eighteen-hour flight from the West Coast to Vietnam, and we were about an hour from landing when I first had the sense of entering an alien world. It was about one in the morning; I woke up from a light nervous sleep and looked out the porthole. I couldn't recognize any of the stars. That was profound. I had been interested in astronomy, sometimes to the point of fanaticism, since I was a Cub Scout, and the constellations were as familiar to me as the faces of family members. But I'd never been to the tropics. For the first time in my life I was looking at the Southern Cross, Alpha Centauri, the Magellanic Clouds. I stared for a long time, transfixed, and the plane began its descent. Soon there were lights on the ground as well, the red spray of tracers and smoky orange billowing napalm. The base where we were landing was under attack.

We landed without incident—the fighting was going on at the other end of the large base, several miles away—and entered yet another alien world, a surreal one. They herded us into a mess hall and someone handed me a large spoon, and for an hour I served instant mashed potatoes to hundreds of people who didn't seem to notice that there was a war going on outside. I felt like I was caught in the middle of a Pinter play. After my shift I spent a couple of hours sitting behind the mess hall, sipping warm beer and watching the helicopters bob and weave, spitting flame, firing rockets. Men dying under alien stars, literally.

There followed a couple of weeks of growing tension while people tried to cram into us the training we should have had in the States. In jungle warfare in the sixties, the main function of a combat engineer in the field was to carry on his person enough high explosive to level a city block. It was a dead dangerous weight

until you ran into the enemy. Then, ideally, while the fighting raged, you would take a couple of riflemen and drop back a ways in order to clear a landing zone for helicopters, which would evacuate the wounded and bring in supplies. To do this, you affixed explosive to the largest trees and blew them down, then cleared out the smaller stuff with axe and machete, hoping that it hadn't occurred to the enemy to circle around and see what was going on. It wasn't the safest job in the world, but at least for me, it was psychologically easier to endure than most combat positions, since you could tell yourself you were engaged in saving life rather than taking it.

(But we also learned how to use other people's weapons—even Russian and Chinese weapons that we might scavenge on the battlefield—and how to call in artillery and air support. Because if enough of the infantry were killed, we'd have to take their place.)

The next alien world was alien primarily in an existential way, though the surroundings were strange enough. That was when I was first sent out into combat.

I was sitting in a fire base, a semi-permanent camp in a secure valley, learning how to take apart and clean chain saws. The sergeant came running up and said you, you, and you, saddle up and get down to the pad. I was given 500 extra rounds of ammunition and a case of beer, and told we were going to a "hot LZ"; a landing zone that was under fire, so the helicopter wouldn't actually land. It would come within a few feet of the ground, and we were to jump out and land running.

It was terrifying. As we descended, you could hear the gunfire even over the throbbing of the helicopter's straining engine and blades. I didn't know that the gunfire was all from our side, trying to keep the enemy's collective head down while the chopper came in. It was no more than twenty yards from where we jumped out to where a GI was waving from behind a stack of sandbags; I don't believe my feet touched the ground three times in those twenty yards.

None of us was hurt coming in. I hunkered down behind the sandbags and passed out the beer and ammunition, both appreciated, and tried to will myself to relax. I couldn't. The firing

stopped but the smell persisted. They had been in the same position for two days, and the jungle around them was full of enemy dead, rotting in the damp tropical heat. We had a few dead ourselves, decently tucked away in body bags, including the man I'd been sent to replace. With less than a month left in Vietnam, he'd been shot through the heart by a sniper.

The guy who told me that, as if to even things up, took me off to see the latest treasure, a freshly killed enemy scout whose body and gear they had dragged inside our perimeter. I'd never before seen a dead person who hadn't had the benefit of an undertaker's ministrations. I steeled myself for the experience—but someone had moved the body, which made me feel relieved and annoyed and obscurely weirded out. The Walking Dead and all. But I got to hold his rusty, bloody rifle and sort through the sad mementos he'd left behind. A letter, presumably from home, unfolded and refolded many times, a wallet with a little useless currency, a military ID that said he was only sixteen years old. He had walked down from Hanoi, two thousand miles of jungle trail, to cross over into South Vietnam and spend his first and last day in combat absorbing one American bullet.

Then the enemy machine guns started up again, from a new angle, and we ran for cover, bullets whirring around. I spent the rest of the afternoon in or near shallow makeshift bunkers while sporadic gunfire probed the invisible perimeter. Just before dark the artillery started, a salvo coming in every few minutes to protect us, crashing just beyond that perimeter. But it was a double-edged sword; the shrapnel sometimes whined overhead, and a piece the size of a dessert plate opened up the back of a lieutenant's hand as he slept, a few yards from me. I had a feeling that I wasn't going to get much sleep that night, and I was right.

That's when I visited another alien world, and as I've said, it was an existential one as much as physical. The other soldiers helped; they all said some version of "Hell, this is nothing; you should've been here last week"—and I didn't know enough about human nature to realize I was being hazed. In fact, it was the heaviest action they'd ever seen. To me, though, lying there wide awake while the jungle shook and flashed with explosions, while the air sang with bullets and fragments and stank of the dead,

while wounded men cried and muttered, desperate men whispered into radios and bellycrawled from position to position—I was seized with an absolute conviction that I was going to die. Nobody could live through a year of this. It was just as certain as the doctor snapping on the X-ray viewer and saying maybe a year, maybe a month, maybe tomorrow; there's nothing we can do.

I'm tempted to say that once you visit that world, you never come back from it. The truth is less dramatic. It's more like the memory of a home town: easily recalled, not far below the surface, but not profoundly present in everyday life. At least not for me, at least not any more.

After that eventful day we did have the gruesome chore of searching and disposing of bodies, the description of which I will spare you, and we did draw fire occasionally, but it was obvious that things were cooling down. After a few weeks, I came to realize that it might be possible to survive the whole year. We had significant contact with the enemy only a couple of times a month. The death rate was high, a lot higher than news reports indicated, but it looked like you had about a fifty-fifty chance of leaving the country alive. As it turned out, of the thirteen people who joined the company the day I did, only three were left after a year. Two of us had spent months hospitalized for wounds. I had been the sole survivor of a squad.

These disproportions were unusual. But not unique, of course. I've talked to a number of Vietnam veterans who had this experience: loud noise, look up...you're the only one left.

And what about the machines? It became obvious that there were two ways to die in Vietnam. Either you ran out of luck and got killed by the enemy, or you did something stupid and got killed by your own equipment. Stories abounded. The guy who scratched behind his ear with the .45. The guy who jumped aboard a personnel carrier with hand grenades safety-pinned to his tunic. The guy who leaned too far out of a helicopter or tried to fire a weapon full of mud or dropped an armed mortar round or slept under a tank. My demolition outfit circulated a warning picture of what was left of a man's face after he'd tried to crimp a blasting cap with his teeth. We lost one man in a bizarre chainsaw accident and another (just before I got there, actually) who had gotten blasé

about explosives, neglected to take cover, and was killed by a piece of debris from his own blast, a wood chip that struck between his eyes at the speed of sound.

(This doesn't even count the problems caused by the septic and hostile natural environment. One man was bitten by a Russell's viper and died before antivenin could be dropped, another was mauled by a tiger, and people were constantly being poleaxed by malaria and gruesome intestinal parasites. During the rainy season we tended to look like refugees from a George Romero movie, covered with suppurating leech wounds and green patches of jungle rot.)

The machines were not simply, or primarily, dangerous, of course. They were the only thing between you and the enemy, and you got pretty close to them. The relationship with the M-16 was a love/hate one, well documented, because it was too delicate a weapon for the conditions (and how it wound up that way is a fascinating study in bureaucratic incompetence and greed)—but there were other weapons that could always be counted on to do their job, and soldiers' attitudes toward them covered the spectrum from approval to veneration. In my experience, those were the new Army hand grenade, the size and shape of a baseball; the workhorse .45 automatic, the M79 grenade launcher, and the LAWS one-shot rocket launcher. Some unofficial weapons, like the Soviet AK47 assault rifle, the Thompson submachine gun, and the Colt Python .44 Magnum, commanded respect for relative rarity as well as dependability.

And you had to love napalm. We walked around the jungle in small groups, trying to make contact with the enemy. Once we succeeded in getting pinned down, we would call in artillery and air support, attempting to kill more of them than they killed of us. (This is an admittedly myopic version of what was probably a more sensible, or at least more grand, overall strategy.) A common situation for us was being outgunned and surrounded, so we were always glad to hear that help was on its way. Air support was more welcome than artillery, though, because we knew that jets or helicopters would make the enemy flee. Artillery sounds impressive, but if you have a trench only a foot deep, you're safe from even a surprisingly close hit. You can hear it coming, duck down,

and then pop back up and shoot at GI's.

You can't duck from napalm, though. The forest turns into an inferno and you don't even have time to scream. The first intake of breath kills you. Therefore it was also supposed to be a pretty humane weapon, or at least a quick one, however hideous the remains were to look upon. For whatever reason, the enemy sensibly tended to fade into the woods when the "fast movers" came; when it started to rain jellied gasoline.

Napalm proper is not flammable; it's the name of a soap powder (a mixture of naphthenic and palmitic acids, in case you want to go out and whip some up before finals) which, when added to gasoline, forms a sticky syrup. I hadn't known that before, but one morning we walked back into fire base from a search-and-destroy sweep and found dozens of drums of gasoline stacked around. A sergeant rounded up all us engineers and showed us how to make "foo-gas" bombs (I later learned it was a French word, *fougasse*). First you put a measured amount of this purple powder, napalm, into the large drum of gasoline, then stir it around for a few minutes, until it has the consistency of thin Jell-O. Try not to let anybody near who's smoking. Then you take a white phosphorus grenade and tape it to a brick of plastic explosive—this was starting to sound real dangerous—and you carefully unscrew the detonator from the grenade, and carefully screw in an electrical blasting cap, and *most* carefully lower the whole thing down to the bottom of the drum of jellied gasoline. Then put the top back on the drum, and with the help of a few other guys, carry it carefully to the perimeter, trying not to stumble over the trailing wires; dig a deep hole at a 45-degree angle, and bury the damned thing. For this we got an extra \$50 a month, demolition pay. Then you splice the trailing wires to a Claymore plunger and deliver it to the machine gun bunker overlooking the site. Tell the guy in charge not to squeeze the plunger until he sees the whites of their eyes.

It's sort of like the Strategic Defense Initiative: you don't get to test it and you can only use it once.

This hilltop base had been graced with foo-gas because Intelligence had divined that it was going to be the target of a so-called "human wave" attack, like the Japanese banzai raids in World

War II. Intelligence was usually wrong, fortunately, and no one had actually experienced a human wave attack, so people weren't too worried. There was no doubt that the enemy concentration was increasing, though; there were lots of small-unit contacts in the area, and almost nightly mortar and sniper harassment on the hill.

I was called over to an adjacent hill to do some emergency demolition, and wasn't able to get a helicopter back by nightfall, and so was condemned to sleep on the cold hard ground, for which I was most grateful, because that night Intelligence proved to be right for a change: the artillery on my new hill started pounding away, and I asked what was up, and someone said, "Human wave attack on Brillo Pad." I watched it through binoculars from about ten miles away. You couldn't see any individuals, just a kind of boiling mass of humanity, but you could see the flashes from weapons, and especially the pyrotechnic display of the foo-gas, which seemed to work perfectly. I took a kind of a craftsman's pride in it, assuming that one of them was the one I had put together.

Which circles back around to MIT. It was some weeks before it occurred to me that, in a sense, I was now an accessory to murder. I had refused to kill people directly, but wasn't reluctant to apply technology and expertise to the same end. The twenty or thirty people who were engulfed in flames at that moment died as much from my actions as from those of the infantryman who triggered the bomb. Of course if I hadn't done it, some other demolition man would have; the outcome would have been the same. But following that line of reasoning carries you back to the moment you open your draft notice and have to decide between the army or prison or exile. Even if the army uses you for typing or rolling bandages, you have freed another pair of hands for killing.

Of course you can go even further, as radical rhetoric did in the sixties, and point out that merely paying income tax made you an accessory to the murder of Vietnamese; civil disobedience was the only moral alternative. If I'd known then what I know now, that might have been the route I'd taken. Speculation is idle, though. There are no time machines and history doesn't quite repeat itself.

A month or so later, I was severely wounded and spent five

months in a couple of hospitals, the second of which introduced me to another alien world, the mundane one of drug dependence. There were over a hundred bullet and fragment wounds, more than twenty serious ones, and the army wouldn't give me enough painkiller to dent a migraine. Army hospitals have more pushers than doctors, though, and I floated through three months on a cloud of hashish, Demerol, marijuana, opium, amyl nitrite, and alcohol. I could have had all the heroin I wanted, cheap as beer, but I tried it and, fortunately, didn't care for it.

Through all this succession of alien worlds I was aware of being a stranger in a strange land, moving through physical, emotional, moral, and existential *terra incognita*. What I wasn't ready for was returning home and finding yet another alien world.

Part of it was political. Having been away for the year 1968, I missed most of the events that polarized the country over Vietnam. A larger part, though, must be something that anybody goes through who has learned to survive combat, and by learning I don't mean the business of remembering to clean your rifle and not light a match at night. You become attuned to danger, living every second as if you were in somebody's gunsights. And you can't turn it off simply by traveling ten thousand miles. For a couple of years I treated the real world as if it were a suburb of the war; land mines between the sidewalk cracks, ambush lurking behind McDonald's. It was absurd, but that's not an argument you can use with your subconscious. What it takes is years of the sidewalk not blowing up and Ronald McDonald not opening fire.

So I was okay after a few years, and then not okay again, with a classic case of Post-Traumatic Stress Disorder, which yielded either to two years of psychotherapy or two years, period; I'll never know.

I guess that's my solar system, the alien worlds that I've explored and reported back about, in the form of novels. Most novels that are any good are "about" a lot of things, not all of them accessible to the author, but for the record and for the hell of it, let me record which is where. *War Year* is a realistic, naturalistic novel simply about Vietnam. *The Forever War* is an extended metaphor on Vietnam, mainly about the alienation of soldiers and veterans from the culture they risked their lives to protect—and

The Congressional Budget Office's report *The Budget Effects of the Challenger Accident* says that of the first twenty shuttle flights when the program becomes regular again, at least fifteen will be given to the military. Now that the Galileo and solar polar flights have been bumped, the Hubble Space Telescope may have a chance of being one, or one and a half, of the remaining five. The new Spacelab, with its European backing, might also get one of the early tickets, to help boost international confidence in the American program.

Of course no one can yet say when regular flights will be resumed. At this writing, the first test flight may be as early as next July or as late as February, 1988. A lot hangs on the redesign of the booster; how smoothly the testing goes. You know it will go cautiously.

Confessions of a Space Junkie

This is the text of a speech I delivered on 6 June 1981 at Ohio State University. I recycled it partly because of the sad predictive aspect of it, and partly to try to recapture for some of Science Fiction Review's younger readers what it was like back in the days when space travel was new and exciting and, we thought, fraught with uncertainty...

It happens that I know exactly what I was doing ten years ago tonight: I was drinking beer at Joe Green's house.

Now if I remembered every night I spent drinking beer, there wouldn't be room in my brain for much else. But this particular evening was special, the way only a dozen or so evenings have been special — because ten years ago today, Apollo 14 roared into the sky, and Joe Green lives at Cape Kennedy.

Joe writes science fiction, but also works for Boeing down at the Cape. When the Apollo launches started, he put out a blanket invitation. Any science fiction writer who wanted to see a launch close up could come down and he'd make arrangements: let his house be a central meeting place. I don't know if he realized it at the time, but he was catering to a brand new kind of social misfit: space junkie.

Our habit is expensive but otherwise we're a relatively harmless lot. We don't lounge nodding in doorways, frightening children, or knock over liquor stores. Like all junkies, we do lie and cheat and steal. But since we only lie to and cheat and steal from the government, it's all very American.

This is the set-up at the Cape. There's a large Press Center that is the nucleus of action for the real working press. Typewriters clacking, hot-lines to Western Union, Telex machines and cigar smoke and hello-sweetheart-give-me-Rewrite. The Press Center itself publishes reams on reams of material, handouts given to the reporters in the hope that they'll keep their facts straight. This stuff is meat and drink for a science fiction writer. It's nitty-gritty detail about real space ships, about how real astronauts live and work, literally hundreds of pages. But you don't get into the Press Center without a badge, and they don't give badges to people who write that Buck Rogers crap.

(As an aside, I note that they ought to. It's reasonable to assert that there never would have *been* a space program without science fiction—or at least there would have been a hell of a lot fewer scientists and engineers in the appropriate specialties—and the role of science fiction in providing visibility and promoting public support for the space program is undeniable. Perhaps we do romanticize it, but at the risk of footnoting a footnote, I have to quote Timothy Leary, who in a rare moment of lucidity pointed out that only the U.S. government could take the greatest adventure in the history of mankind and make it boring.)

So what you do, once a launch date is set, is start calling up every editor you know. All you need to get a press pass is a letter under a legitimate publisher's letterhead, confirming that you're going to be covering the launch. In fact, the editor might blackmail you and force you actually to write an article. But I'd guess that at any given launch, as many as half of the people with press badges are actually space junkies in disguise. NASA knows this, of course, but it would be difficult to prevent, and the fakers don't do any harm so long as they stay out of the way.

Some of them don't even go to the Press Center, as a matter of fact, because all they came for was the fireworks.

I've tried many times to describe what an Apollo launch felt

like—having been one of those who actually did have to write articles—but have never succeeded completely. It's too visceral an experience. Writing about it is like writing about food or sex. My favorite food is caviar, but if you've never tasted it there's not much I can do to truly evoke what it tastes like: complex, salty, kinda fishy...take my word for it, it's really good. If you've only seen a launch on television you're like someone who's only read the label on a jar of caviar.

Some hours before the launch, usually before dawn, we'd load our various typewriters and cameras aboard a fleet of buses and take off down the miles of ruler-straight road cutting through the mangrove swamp that separates the launch complex from the rest of NASA's establishment at the Cape. The isolation is partly a safety precaution, since the fuel in that space ship has as much energy as a small atomic bomb. It's also sensible to keep most of NASA's electronic bric-a-brac a good distance away from the God-awful noise and vibration that a Saturn 5 makes when it blasts off.

The buses drive by the Vehicle Assembly Building—a hollow cube of concrete so huge that clouds can form up by the ceiling, and make it rain indoors—and on to the press site, which is a covered-bleacher arrangement some three miles from the launch pad.

(This puts it right on the edge of the "radius of destruction," should the ship blow up on the pad. The VIP viewing area is a couple of miles farther back. Journalists write stories but politicians sign appropriation bills.)

The press site has tables for your typewriters, phone jacks, TV monitors, trailers with coffee and sandwiches. It's a hectic and exciting place, tension mounting as the countdown rolls toward zero. At one minute, a sepulchral voice from the loudspeaker counts down second by second. Then there's a small flame at the base of the rocket, and a laconic "We have ignition"—and the flame gets brighter and brighter, until it's difficult to look at, even in broad daylight.

The speed of noise at sea level is 331 meters per second, so it takes about fourteen seconds for the sound to reach the press site. The ship begins to lift. For the first few moments, the sound is just a faint sigh. You can still hear the reporters around you, everyone

standing, muttering "go...go...Jesus...look at that..."—but the sound mounts swiftly and saturates the audible spectrum, from nearly subsonic gravel to piercing scream; your ears overload and, nearly deaf, you start to feel it washing over your skin, feel it grinding in your bones and guts. Then as the rocket rises away, the noise begins to abate, to merely a roar, to a whisper lost in the ringing of your ears.

There aren't any civilian sounds to compare to that. I heard something similar in the army, working as a demolition engineer, when we set off several tons of high explosive from a quarter mile away. It wasn't quite as loud, though, and didn't last long, and it didn't get anything to the Moon.

The most dramatic launch was the last moon shot, Apollo 17, the only night-time blastoff. The press site was crowded with more reporters and junkies than I'd seen in any previous launch, and there seemed to be ten times as many cameras as before.

The camera situation was interesting and, to some people, disastrous. The press site sits over a body of water, like a wide canal that does eventually wind its way to the sea. Before sundown, the edge of the canal was an unbroken continuum of tripods.

One photographer saw a unique opportunity: just over the bank of the canal was a solid ledge, big enough to safely hold his tripod. He set up his camera, got it aimed and focused, then clambered back up and went off to get some coffee. He forgot about tides, though. When he came back, King Neptune had a new Nikon.

There was a lot of suspense associated with the photography, because nobody had the faintest idea of what the proper exposure parameters were going to be. Nothing like this had ever been filmed before, and as it turned out, the best pictures were taken by people who were equipped with large film packs and motorized advances—taking two or three pictures a second, while opening and closing the iris of the lens to cover a wide range of f-ratios. Assuming their cameras were still in place. Many of them wound up lying on the ground.

Nobody had noticed the resemblance of that line of tripods to

a row of dominos. At lift-off somebody knocked over the camera next to him, which knocked over the next one, and so on down the line. I was safely up in the bleachers, but I'm told there was a sort of lynch-mob sentiment down by the water.

The Saturn 5's first stage is powered by five Rocketdyne F-1 engines, about which more later—and though they make a truly awesome sight by day, at night it's like nothing else made by humans. Seconds after ignition the night was simply driven away, replaced by an eerie orangish ambience almost like dawn—but not quite the right color, and the sun was rising awfully fast.

The first noise was birds, thousands of them. Cape Kennedy is in the middle of a bird sanctuary, and we had them all fooled, at least for a few seconds. I suppose when the noise of the blast came rolling in they realized, hell, it's just another rocket, and went back to their nests.

Oh, but it was beautiful. The only thing I can compare to it would be a total solar eclipse—and if you've never seen one from inside the path of totality, well, there you are again, reading the label on the jar.

From then on it sort of tapered off. There were other Saturn 5's for Skylab and Apollo-Soyuz, and I did go to most of them, but there would never be another night launch. Perhaps it's just as well; perhaps there are things that should only be done once.

15 July 1975 was the end of an era, then, when the last Saturn 5 sputtered out and fell into the sea. I enjoy watching the little rockets go up (like the minuscule Titan-Centaur, that can only put 19 tons into orbit), and in fact I've moved to Florida so that I can just walk out onto the beach and watch them fly. I'd assumed that I'd seen the last of the big ones; that the shuttle was going to be a rather subdued little taxi. After all, it's only about half the size of the Apollo vehicle, and all three of its main engines together produce less thrust than one of those five F-1 monsters.

Well, an article in the paper last week claims I'm wrong; that the shuttle launches will be even *more* spectacular than the Apollo ones. I got out my calculator and my *Jane's Book of Space Exploration*—and, by God, it does look possible. I had underestimated the energy pent up in those two solid-fuel boosters they have strapped on the side, like an afterthought. Each of them has

nearly twice the thrust of an F-1—and intuitively it seems likely that solid fuel will make a brighter and louder splash than lox plus kerosene.

The junkie's fingers start to twitch. I already have my press credentials (legitimate this time; I'm doing a book on space flight), if only NASA can get the thing working.

Of course, "getting the thing working" has been NASA's prime headache for several years. From NASA's viewpoint—at least its public viewpoint—the endless problems boil down to a question of money and management. That's only partly true. The whole story is much more complex and interesting. This is a good time to look at it, while there still is a manned space program. After this spring it may be dead, killed along with two astronauts a few seconds after $T=0$, killed by money and management and a confluence of interesting forces; technological, historical, social.

Now, no junkie with class supports his habit by knocking over filling stations and such. What you do is tell all your friends how great the stuff is, get them addicted, and then sell it to them. I've been supporting my space habit this way for some years, and I'm not about to change my ways tonight. But I'm a story-teller by trade, and there's a grand story to be told here, full of heroes and villains, at least one assassin, conspiracies, wisdom, stupidity.

We will proceed with little regard for chronology, skipping from future to past and back again. First let's talk about abortions—the mechanical kind rather than the medical. Thumb on the red button. Bailing out.

Unlike the Russians, we've never lost an astronaut in flight. This hasn't been due to luck. It's because we've never been guilty of the "You can't send a boy up in a crate like that!" syndrome. Not only because our flight systems have been thoroughly tested first, both in scale models and in full-sized but unmanned dry runs, but also because we've paid scrupulous attention to abort procedures, their mechanical aspects failsafed and redundant through all stages of a mission, the pilots trained to a fare-thee-well in what to do if something goes blooie.

(The early Russian cosmonauts, by contrast, were little more than passengers, stuck in a tin can with an oxygen bottle. Their

first female cosmonaut's main qualification was that she belonged to a skydiving club.)

The space shuttle has three distinct abort procedures, each having to do with a loss of thrust in the main engine—that is to say, you've already gotten up past the stratosphere and jettisoned the solid-fuel boosters, and how much thrust you can squeeze out of the thing determines whether you try to make it back to the Cape, or swing through a short-life orbit and come down in New Mexico or some other emergency landing site.

But the main engine is the baby of the three. What about those two solid-fueled monsters? To quote the apologetic language of *Aviation Week & Space Technology*: "Most malfunctions of the Thiokol solid rocket boosters are basically considered to be unsurvivable emergencies."

In other words: "Here's the plan. Suppose one of the solid-fuel boosters fails. The plan is, you die."

During the first few tests, the astronauts will be equipped with ejection seats, but they are not, again quote, "a viable escape mechanism" on the pad, nor for the first fifty feet of altitude. Nor are they of any use after the vehicle attains Mach 3, which it does while the boosters are still blasting.

But the possibility of blowing up on the pad is only the most dramatic, and we hope a very unlikely, event among the universe of things that could go wrong on the first flight.

Nothing like the space shuttle has ever tried to fly before. You have four attached aircraft, essentially; one with wings, three of them blasting away with millions of pounds of thrust through subsonic, supersonic, and hypersonic speeds. The orbiter will break all speed records for winged craft within four minutes of flight—and triple its own record before it leaves the atmosphere.

No mathematical model exists to predict exactly what the flow of air is going to do to that ungainly machine as it accelerates from zero to hypersonic. And no *physical* model was built, because NASA didn't have the money. No unmanned flight test is possible because the bird simply can't be trusted to fly without a real-time pilot. Who may die when high-speed turbulence shakes the whole conglomeration to pieces. At least one Apollo astronaut has declared publicly that he wouldn't fly the thing, not the first time.

So how did this happen? Aren't space ships supposed to be sleek graceful things? Sure, they're built by committees—but the shuttle is the first one that *looks* it.

To understand why, we can follow various threads of history that pass through one point in space and time: the aforementioned VIP viewing area at Cape Kennedy in July, 1969. There were some interesting people there—like the only surviving American slave, Charlie Smith, who thought it was all a waste of time. President Nixon couldn't make it, too busy with his tape recorders and things, but Spiro Agnew was there. And an old man who started out as a school-teacher in Transylvania: Hermann Oberth.

Oberth was the only one of the three early rocket pioneers who lived long enough to be there when Apollo 11 blasted off to put men on the surface of another world. He was also, curiously, the one most directly related to that rocket's genealogy, by way of Adolf Hitler.

Here's a quick gloss of the history of modern rocketry. The other two pioneers were Konstantin Tsiolkovski, a Russian, and Robert Goddard, an American. The three men, working independently over a couple of decades, all came up with the notion that liquid-fueled rockets could be used to escape the Earth's gravity. What made Oberth's 1923 book, *The Rocket Into Interplanetary Space*, the most important was that Wernher von Braun read it.

Von Braun wound up head of a club called *Verein für Raumschiffahrt*—the Society for Space Travel—which built small experimental rockets and launched them (at the cost of some fingers and toes and three lives) and made grandiose plans for the eventual conquest of outer space. But the club fell victim to Germany's runaway inflation and the Great Depression. Until 1933, when Adolf Hitler came to power.

The Treaty of Versailles had put strong restrictions on the kind of munitions that Germany could build and accumulate, but it hadn't said anything about rockets. By 1934 von Braun and many former members of *Verein für Raumschiffahrt* were members of Hitler's army—not, they later affirmed, because they had any sympathy for Hitler's mad ideas of racial purity and world conquest, but because that was the only way they could continue their researches into rocketry. (In their defense, it should be noted

that von Braun was arrested under Himmmler's orders, in 1944, for being more interested in getting to the Moon than winning the war.) The V-2, the development of which cost more than the Manhattan Project, turned out to be a dramatic but rather ineffective weapon, and there were still thousands of them in storage when the Allies overran Germany in 1945. The rocket engineers, far enough from Berlin to have some freedom of choice, had to decide to whom they should surrender. In the words of one admirably frank scientist, "We despised the French, we were mortally afraid of the Soviets, we did not believe the British could afford us, so that left the Americans."

So the Americans wound up with von Braun and most of his planning staff, and three hundred freight cars worth of V-2 components. The Russians claimed they captured more, both men and material, but we had the cream and besides, they were just a bunch of communist peasants who probably couldn't even find a match for the fuse.

For nearly a decade these German scientists languished in an outfit called the Army Ordnance Guided Missiles Development Group, shooting their V-2's into the New Mexico sky and trying to scrounge money from the army. The people who made money decisions, though, had decided that guided missiles were just an exotic adjunct to the overall defense picture; specifically, nuclear weapons were too heavy and guided missiles were too small for them ever to be mated. The same argument retarded the parallel, and independent, missile projects that were going on in the Air Force and the Navy. The Army stayed well ahead of them because they had the Germans.

Meanwhile, von Braun and his mentor Willy Ley proselytized energetically about the coming wonders of space travel. With the help of *Collier's* magazine and (later) Walt Disney, they got the American public pretty excited about their ideas. More excited than the military was.

After twenty years of planning and experience, these ideas were pretty well thought out. Note the sequence: First you build a shuttle. Then you build a space station. Once the space station is finished, you might use it as a staging area to go to the Moon or Mars. That would be interesting. In their 1952 book *Across the*

Space Frontier, out of 142 pages, they spend two paragraphs on the idea of a Moon landing.

Suddenly things started to happen. In 1953, the AEC let it be known that they were on the verge of producing a small, light atomic bomb. The idea of an ICBM started to look attractive, especially after we found out the Soviets had been pursuing that goal since 1947. Money and manpower were suddenly available to all three missile groups. In 1954, von Braun said his bunch would be able to orbit a small satellite by the end of next year.

This is where it gets really complicated, and I'll spare you all the complications except to note that they involved the muckraking columnist Drew Pearson and an unfortunate note written on Air Force stationery. Anyhow, the government did finally get around to authorizing a space satellite, but the competition was won by the Navy's Project Vanguard rather than the Army and von Braun. Before they could get off the ground, the Sputnik went up, 4 October 1957.

Which leads us to "The Space Race," of which you may have heard. Through the magic of arithmetic, I perceive that most of this audience was born around 1960 or later. So the Space Race might be to you something like Pearl Harbor is to me: the history books say it's important, but since it happened before I was born, it can't be *that* important.

That fall of 1957, Vanguard was hamstrung by interservice rivalry and administrative indifference. Eisenhower, like Truman before him, thought the Soviets were silly boobs *a priori*—they'd fallen for Communism, after all—and that missiles were little more than toys. Vanguard was drastically under-funded—\$20 million when it needed \$100 million—and was set back for 18 months of redundant construction when the Army refused to let the Navy use its launch facilities.

The crowning blow came a week after Sputnik. Eisenhower misunderstood a Vanguard report and told the press America would launch its first satellite in two months (in fact, it was just to be a systems test). They tried to push it, but the untested system blew up three inches off the launching pad. The Soviets responded with sarcasm and orbited a dog, keeping it alive for four days.

Vanguard went back to the drawing board, but von Braun had

grown impatient; a month after the Vanguard explosion, the Army was given a green light and in four days launched its Orbiter satellite. The race was on but we seemed 'way behind.

It's interesting to speculate what might have happened if there had been no bureaucratic screw-ups, if von Braun had been allowed to continue from the beginning with decent funding and the blessings of the Defense Department. He would have launched a satellite at least a year before Sputnik—and though the Soviet launch would have been worrisome, it wouldn't have resulted in panic.

Hindsight is a wonderful tool. We were really far in advance of the Russians except in the area of large boosters, and catching up fast there. If we had gone along with von Braun's scheme we would have had a space shuttle by the early sixties, and then a permanent space station, and maybe a man on the Moon some time in the seventies. But an election year was coming up.

Nixon was running more-or-less on a platform pledging to continue Eisenhower's policies, which had given the country a period of peace and prosperity. One slogan was "He kept us out of war"—but *Mad* magazine reflected a large segment of popular opinion by twisting that into "He kept us off of Mars." Kennedy played this sentiment for all it was worth, promising an aggressive, well-funded space program that would pull us into the lead of the Space Race.

Well, right after Kennedy was inaugurated, the Russians beat us by three weeks in putting the first man into space. In between came the Bay of Pigs fiasco. The new president had to do something, and what he did was call for an all-out drive to put a man on the Moon before 1970. Or at least before the Russians.

NASA was delighted. It did look barely possible, with enough money, cutting corners here and there. We would have to forgo the luxuries of a space shuttle and permanent orbital station, but those were things they could go back and do later.

As a matter of fact, the lunar program might not have got off the ground if we'd known how frightfully expensive it was going to be. NASA called for \$7-\$9 billion; even allowing for inflation, the cost overrun was about \$20 billion. What happened, of course, was that Oswald's bullet made Kennedy a martyr and his rash

promise, a sacred trust. And throwing money into space was a nice smoke screen, partly obscuring the fact that we were dumping twenty times as much in the process of losing a war against a third-world Asian country.

It was that war, of course, that forced LBJ out of office and put Nixon—who had never supported space, or science, or anything tainted with intellectualism—into the ludicrous position of taking credit for the Moon landing. Which takes us back to that VIP viewing stand in July of 1969.

After the rocket went up and the cheers died down, Agnew gave a stirring speech affirming the administration's commitment to even greater activity in space—culminating in a manned flight to Mars by 1990. While he was speech-making in Florida, Nixon and the OMB were busy in Washington, muttering "enough is enough," slashing NASA's appropriation to the bone.

NASA offered three scenarios for a future space program. The most ambitious called for a 50-man permanent space station, a manned base on the Moon, and a Mars mission by 1985. Of course these would require a space shuttle and a deep-space tug for lunar resupply.

Less ambitious was a program that called for a later Mars mission and no lunar base. Finally, a rockbottom plan called for just the shuttle and space station, deferring the Mars flight decision.

Nixon, the OMB, and Congress came back with a resounding *no*. No Mars mission, no moon base, no space station, no shuttle. NASA was allowed to go ahead with Skylab and some of the remaining scheduled moon flights (though three had to be scrubbed), since those projects had gone too far to stop. And they could have some loose change for studying the space station and shuttle, but don't go *building* anything.

NASA was shocked, but they shouldn't have been. After all, they had done what the public had demanded, put the Russians in their place, and most of the public were quite ready to see the government spend their taxes elsewhere. I think NASA was surprised for the same reason I was—we were suddenly forced to admit that not everybody is a space junkie.

(There was nearly a second Revolution when a Bowl game was

interrupted to show men walking on the moon—well, Cronkite's a space junkie, too.)

What it boiled down to was a choice between the space station and the shuttle—which is Hobson's choice, since you couldn't really build the station without the shuttle, and it was hard to justify the shuttle without the space station. They finally managed to come up with a rationale that the shuttle would save money in the long run, by providing a less expensive way to orbit satellites and also an orbital repair service. If a \$2 integrated circuit blows out in some comsat, you don't have to build a new comsat and orbit it. You just hand the \$2 component to an astronaut and have her install it next time she's in the neighborhood.

The design they proposed was much more elegant than von Braun's original model (he hadn't counted on the advances in cryogenics that would allow us to use liquid oxygen and hydrogen routinely). Remember those F-1 motors? This machine, the F-1 Flyback, was a two-stage vehicle with both stages manned. The first stage was a huge jet plane, powered by five F-1's. It would boost the second stage into the upper atmosphere and fly back to the Cape, where it would land like an airplane and just gas up for another trip. The second stage was a winged vehicle similar to the existing Orbiter, but fancier and roomier.

The price tag was \$10 billion. Congress was rather sarcastic about that, since NASA didn't have a very good track record for meeting projected costs. Also, it was obvious that the main reason for the shuttle was to provide NASA with an excuse for existing—as *Nature* pointed out, it had "all the appearance of being a device that would create for its designers the need for credible employment."

Finally, Congress and the OMB told NASA they could have a shuttle if they could hold the price down to \$5.15 billion, with no more than 20% cost overruns, on the understanding that development costs would eventually be recouped by users' fees (causing one official to complain that they were turning NASA into a "trucking company"). NASA came up with and discarded literally hundreds of designs—most of them involving the reliable but rather expensive F-1—before coming up with the strange configu-

ration that sits on pad 39A today. The use of solid-fuel boosters was forced on NASA by cost considerations. If recovery fails and the booster sinks, they've only lost a metal tube. A liquid-fuel engine would cost fifty times as much to replace.

Because there wasn't enough money for the usual slow, careful procession of interim testing, NASA has had to proceed with building its most complex, most radically designed vehicle with crossed fingers, hoping each stage would go without a hitch. It didn't, of course. Engines overheat and crack. Tiles fall off. So now we have the spectacle of two heroes sitting on top of enough high explosive to level a small town, arranged in a complicated system that has never been adequately tested. The Kennedy Space Center Director claims "the space shuttle will be safer than the Mercury, Gemini, and Apollo spacecraft, because of the added experience NASA has gained." I hope he knows what he's talking about. I hope he's not just whistling in the dark.

And I hope I haven't given the impression that NASA is the villain of this story. There really aren't any villains, other than the ones already condemned by history—Hitler, Oswald, Nixon (and only one of them appears here as an obstructing force). What I've been trying to do for the past hour is to give you a sense of how complex and deeply-rooted the problems are, that forced NASA into such an unusual compromise in design and testing procedure. If the shuttle hadn't been built—in whatever design—it would have been the end of manned space flight in America for the foreseeable future. So we're gambling; gambling lives and money, but from my point of view the stakes justify it. Not just so I can see another fireworks display. I really think that successful exploitation of space is the only way we can give hope to our crowded, hungry, jittery world. That's another lecture, but I hope that most of you here today know the broad outlines of it. And hope against hope that most of our fellow citizens appreciate what will be at stake come May or June, and NASA will show those of us who watch the countdown with fingers and toes crossed and ready to duck, that we had nothing to worry about.

War Stories

Savagery toward the enemy is the common stuff of any war. Here a British officer describes handling enemy casualties in World War I:

I am afraid I ceased thinking of Germans as human beings from that time. I may as well frankly admit that through all my experiences in trench fighting since then, my habit became that of calling into a dug-out [of surrendering Germans]:

"How many men are down there?"

If the answer came (let us say) "Six," we would throw three bombs into the dug-out and call:

"Here—share these among you."¹

An American officer describes the way the Japanese cared for American prisoners who collapsed during the Bataan death march:

Skulking along, a hundred yards behind our contingent, came a "clean-up squad" of murdering Jap buzzards. Their helpless victims, sprawled darkly against the white of the road, were easy

targets.

As members of the murder squad stooped over each huddled form, there would be an orange flash in the darkness and a sharp report. The bodies were left where they lay, that other prisoners coming behind us might see them.

Our Japanese guards enjoyed the spectacle in silence for a time. Eventually, one of them who spoke English felt he should add a little spice to the entertainment.

"Sleepy?" he asked. "You want sleep? Just lie down on road. You get good, long sleep."

On through the night we were followed by orange flashes and thudding shots.²

And this one is from an American paratrooper:

For about six months I'd been living with this mamasan and her three kids. We got along real well; she was a good fuck and did all the cooking and cleaning and kept my uniform strack.

Well, we get the word we're moving out before dawn, flying north for a drop. Got to keep it absolutely secret from the gooks.

So what the hell can I do? I can't tell her. I can't just leave, because she'll know something's up and might pass the word. So what I do is wait till after midnight and sneak in and cut all their throats, just kill them in their sleep. then go join my unit. Made me feel like shit, but what the hell can you do?

This last anecdote was told to me in the early '70s by a middle-aged sergeant, killing time in a bar in O'Hare International, stranded overnight by a snowstorm. I had long hair and a beard but was wearing the brass bracelet that serves as a recognition signal for Vietnam veterans; he was in dress greens with a chest full of fruit salad bespeaking valor and woundings during service

in Korea and Vietnam.

It's significant to me that the story comes from Korea, in 1952. Not Vietnam.

Why did he feel he had to confess this atrocity to a total stranger? We had talked enough for him to know that I was a combat veteran, slightly decorated and disabled, and perhaps he thought that that would make me sympathetic to cold-blooded homicide, so long as they were gooks being killed. It didn't. I tried to be civil but finished my drink quickly and left, even with no place to go but another airport bar.

Later I berated myself for being unprofessional. I'd written one book about Vietnam already, and was working on another, and this guy could have been a valuable resource. War stories

Let's take a look at that story. I've related it as accurately as I can, but that was more than ten years ago and of course I didn't have a tape recorder. I do remember that he used Vietnam slang like *strack* (meaning "in the best possible condition," eponymously from "Strategic Army Command"; *gook* and *mamasan* are not anachronisms). He probably didn't tell the tale quite so compactly. He probably didn't use the line "got to keep it absolutely secret from the gooks," which I belatedly see is almost perfect trochaic septameter, and the reinforcement by repetition in the last paragraph is suspiciously literary in its artlessness.

Is that good or bad or neutral? Whenever you read a war story, unless it's a mechanical transcript, there's been some imposition of literary sensibility and structure. Sometimes, naturally, what you see is the end result of a series of translations: the soldier himself has refined the story over dozens or hundreds of retellings; the writer restructures it unconsciously to conform to what he or she knows about narrative effectiveness; the writer further changes it to adapt it to the specific needs of the article or book—and then the editor and copy editor get to stir it around as well. (Now hand it back to the soldier and be prepared to wince.)

This article is about Vietnam war stories and a safari I just made through a jungle of them. For reference, here is my own story, compressed:

I was drafted soon after graduating from college and landed in Vietnam the month of the first big Tet offensive, on 29 February

1968. There was a lot of nervous joking about that date, since with a twelve-month tour, Army people leave the same day they arrive, a year later. We were sure the Big Computer would strand us in Vietnam until the next leap year.

But the computer worked, and if our luck had held, all thirteen of us who had been sent to the Fourth Division, Pleiku, would have been back standing in line the next February 28th. As it turned out, there were only three of us left. Ten had been killed or Medivac'ed with injuries serious enough to preclude return. Of us survivors, one was unscratched, one had been shot in the chest and spent several months in Japan, and one, me, had absorbed multiple bullet and shrapnel wounds and had spent five months in various hospitals.

At that time during the war, they said line troops were suffering about 33% casualties. It seemed like more to us.

Yet we knew there were outfits to the north and south that had it much worse than we did. Fighting in the sparsely inhabited mountainous jungle terrain of the Central Highlands, we had contact with the enemy only a few times a month. Our adversaries were normally NVA, North Vietnamese regulars, rather than the elsewhere ubiquitous Viet Cong. The NVA weren't Boy Scouts, but they were less likely to skin you alive and mail your tattoos home to Mother.

Like anyone, when I left the war zone I was an expert about war in general and Vietnam in particular. I'd only been exposed to actual combat for six months (not counting rocket and mortar attacks, which we dismissed as weather, and two combat assaults on hospitals where I was a resident bystander), but it seemed to me that I knew enough.

Imagine how it felt to come home and find that I knew nothing at all. I must have been to some other war.

One of the first magazine articles I remember reading after coming back to the World was something with the title "What Every Vietnam Veteran Knows." It was a chamber of horrors: rape and murder of women and children, taking ears and worse from dead bodies, burning down villages just to watch the glow.

Everyone I knew in Vietnam had heard of such things—but no one had actually *seen* a necklace of ears or Zippo urban renewal

or such. My own combat diary comes no closer than this, for the period of March through September, 1968, in the corner of the Fourth Division that my outfit inhabited:

1. Rape. There was one incident of rape reported; the man was court martialed, found guilty, and sentenced to life imprisonment. (Realistically, one reason for our sterling record was that we rarely saw any women except when we had passes to go into Pleiku or Ban Me Thuot.)

2. Villages torched. Never happened. We passed through a number of *villes* but generally left them standing; we did wreck a bridge once with a tank, but the engineers went back and repaired it. I'm sure it would have been different if the enemy had ever engaged us in town; the ones we fought stuck to the jungle.

3. Prisoners mistreated. On one occasion a South Vietnamese interpreter started to pistol-whip a prisoner. An American officer disarmed him and sent him away. We rarely held prisoners for more than a couple of hours, though, before sending them back to the rear. And everyone did understand that prisoners would be killed rather than left behind, if we were attacked and had to move. But it never happened.

4. Killing women and children. We once killed a woman old enough to be a grandmother, but not until after she had killed two of us with a machine gun. Perhaps less justifiably, we killed two children who came snooping around the perimeter after midnight. We'd sent word to the local *ville*, telling them where we were and to stay away, but the children may not have heard. The tank gunner who blasted them with a canister round felt bad about it but said that, in the darkness, there was no way he could have told they were children, and if it happened again he would do it again. Nobody disagreed.

5. Grisly stuff. After a battle some of the boys—they *were* boys—would wander around taking pictures of corpses, and a few of those got their kicks rearranging the bodies and parts of bodies into ghastly amusing postures. Most of us took souvenir weapons and hardware. No ear necklaces, no castrations, no pulling of gold teeth. Once a traumatically decapitated NVA lieutenant's head became the object of an impromptu game of kickball. Indelicate behavior, to put it mildly, but I think it was more hysteria and

whistling-in-the-dark bravado than atrocity. People with a misplaced reverence for corpses might disagree.

None of these incidents looms very large in my memory, not compared to the mundane daily horror of seeing friends maimed or killed, or the sudden epiphanies of blood in my own woundings. But there's no new story in the daily grind of suffering and death that's modern warfare—nothing as interesting as the EC-Comics perversities that facile journalists and moviemakers served up to the public as being the common currency of Vietnam.

For years, then, I thought there was an unspoken, implicit conspiracy among the press, to selectively show the Vietnam war in the worst light possible. Gradually that attitude evolved to a forgiving but cynical acceptance that the truth does not sell magazines and newspapers; a reporter who described the war the way it actually was, to most of us, wouldn't have his job for long.

And eventually, a further evolution, or re-evaluation—admitting that the war I experienced, as murderous and painful as it was, was less brutal and less terrifying than what most combat soldiers went through. That's hard for me to admit; hard for me to *believe*, but years of talking to other veterans and reading their books forces that conclusion.

Some of the books, anyhow; not all. Let's look at the latest crop:

Bloods, by Wallace Terry (Random House, 1984). Subtitled "An Oral History of the Vietnam War by Black Veterans." A truly harrowing book of interviews, concentrating on grunts, but also interviewing a few officers, pilots, Navy types.

Charlie Company: What Vietnam Did to Us by Peter Goldman and Tony Fuller (Ballantine, 1984). The final document from a project done by *Newsweek* magazine, with six reporters interviewing 58 veterans and the surviving families of six who died, reconstructing the war as it happened to one company in 1968–1969.

Everything We Had by Al Santoli (Ballantine, 1981). Another "oral history" of interviews with 33 soldiers, arranged in rough chronological order, 1962–1975.

Home Before Morning by Lynda Van Devanter (Warner, 1983). Memoir of an Army nurse, from training through Vietnam to

trying to adjust afterwards.

If I Die in a Combat Zone by Tim O'Brien (Dell, 1984 reissue). An educated, literate draftee describes basic training and his year in Vietnam, stationed near My Lai a year after the massacre.

The Killing Zone by Frederick Downs (Berkley, 1983). A vivid, straightforward account of the author's four months as a platoon leader in heavy combat.

Nam by Mark Baker (Morrow, 1981). A mosaic of interviews from dozens of anonymous veterans.

The Van Devanter, O'Brien, and Downs books are more or less traditional war memoirs, à la *Goodbye to All That* or *Guadalcanal Diary*, and I recommend them all, though for quite different reasons.

In *Goodbye to All That*, Robert Graves's World War I masterpiece of horror and irony, Graves notes that he made the usual mistake of coming home and writing a novel about his war experiences, which fortunately did not see print. Later he wrote the nonfiction memoir, and it worked.

Tim O'Brien reversed Graves's order, eventually writing *Going After Cacciato*, winner of the National Book Award and arguably the best novel about Vietnam. Almost a decade earlier, though, he produced the memoir *If I Die in a Combat Zone*, which at the beginning zigzags effectively from Vietnam to Stateside and back, combat vignettes investing the rituals of basic training with drama and foreboding, and then grinds through the rest of his unwilling year in combat with unsparing accuracy. I read it when it first came out, a few years after returning from Vietnam, and to this day I remember the weird double-vision feeling, being snow-bound in Iowa but seeing green and smelling the rank jungle and acid powder smell. A fine book, real.

Frederick Downs was a lieutenant in the Fourth Division, my old outfit, about a year before I got there. From the evidence in *The Killing Zone*, I'm sort of glad he wasn't my lieutenant.

Not that he was a bad officer; quite the contrary. If a division had six men like him, they could spot the enemy a dozen tanks and John Wayne and still wipe them off the map. But the guy was a bullet magnet. When the shooting starts, you want to be on some other acre.

The Killing Zone is obviously expanded from Downs's combat diary (perhaps, like mine, in the form of letters home); there are chapter divisions for convenience, but the narrative, dated, rarely skips more than a day or two of the four months he spent in Vietnam, from getting off the plane to the horrifying moment when a Bouncing Betty mine goes off waist high and shreds his body.

I'd recommend this book to anyone interested in Vietnam or in the conduct of modern warfare. It's not particularly well written, and was evidently copy-edited by a victim of progressive education. But Downs was and is the kind of doughty blood-and-guts officer who most people think became extinct sometime between Hiroshima and the Tonkin Gulf Incident, able to be wounded twice the same day and refuse to leave his men; crawl through withering fire to retrieve a shot private, not knowing whether he's dead or alive (he's dead)—and if he doesn't let false modesty get in the way of a good story, neither does he flinch in detailing his errors, even when they resulted in men being needlessly maimed or killed. (Downs's sequel *Aftermath* [Berkley, 1985] is a better book, detailing his rehabilitation after Vietnam, but is beyond the scope of this review.)

Lynda Van Devanter's *Home Before Morning* has quite a different viewpoint from the bellicose give-'em-hell attitude of *The Killing Zone* or the intellectualized but tough horror of *If I Die in a Combat Zone*. Van Devanter, like Downs, joined the army out of patriotism, and also wound up in the Fourth Division, about two years after Downs. (If all of us keep churning out books, they'll have to change the name of the division from the Fighting Fourth to the Writing Fourth.) Her patriotism, at least the military side of it, didn't survive Vietnam. Of all the bloodcurdling books reviewed here, the middle part of *Home Before Morning* is by far the goriest—some of it told with the grisly detachment of the medical professional (Van Devanter was a nurse assisting surgery) and some of it with the barely contained hysteria of a normal human being almost tapped out, overloaded with death and suffering. Less than half of the book actually takes place in Vietnam, the rest being divided between her late girlhood prior to going there and the slow recovery from the shattering depression

she brought back.

The tenderness and unselfconscious horror make this a unique book about war. If for some reason, like me, you wind up reading several Vietnam books in a row, you must include this one for balance.

The other four are all collections of interviews, which is a particularly appropriate way of approaching Vietnam.

For objective value, as historical and anthropological resource, *Charlie Company* wins hands down. *Nam* flunks. *Bloods* and *Everything We Had* occupy the same middle position, for the same reasons. The criteria are selection procedure and verifiability.

Nam, which is the most dramatic and most entertaining of the four, is all but useless as a serious document. It's a montage of first-person accounts subtitled "The Vietnam War in the Words of the Men and Women Who Fought There," claiming 150 informants. But none of them is identified; there's no way to check up on Baker's accuracy. That accuracy is suspect because of the book's novelistic virtues in terms of language and structure. There is material from many different people here (perhaps fewer than 150), but the unifying intelligence of the single author is too strong.

Bloods shares this problem to a certain degree. Most of the people talk in short dramatic declarative sentences, with a lot of breathless paragraphing. Opening the book at random, I find:

"It was Kelly. The chief hospital corpsman. Short, fat guy. The typical hospital corps chief.

"I said, 'What are you doing out there?'

"I had almost shot him.

"I said, 'Get out of there. Get out of there.' "

There's also a uniformity of adventures and reactions that I find suspect in a book covering the experiences of black veterans who went through the war in many different circumstances of preparation, motivation, assignment, and rank. Of particular interest to me was the record of atrocities. Every ground combat soldier save one spiced up his story with one or more tales of ritual mutilation, torture, murder of civilians, rape—once, the rape of a recently murdered civilian. The only one who didn't have such stories was a man who served two tours as a platoon leader and

company commander. He said explicitly: "The nation heard stories of atrocities...[but] that generalization is unfair to apply to all the people who were there. In two tours I just did not experience any atrocities. Sure, you shot to kill. But personally I did not experience cutting off ears from dead bodies or torturing captured prisoners." If a person were to reconstruct the Vietnam experience from just this one book, the inescapable conclusion would be that this officer is lying, and atrocity was the order of the day. I don't think so.

Not that the other people were necessarily lying. A natural journalistic selection procedure is partly to blame, and partly it's the psychology of interviewing and being interviewed.

I've interviewed about a dozen colleagues, friendly literary conversations, and have been subjected to a few score newspaper and magazine writers myself, some of whom turned out not to be so friendly. I've belatedly learned caution—and having been hunter as well as prey, I've learned a few stalking tricks.

One of the most powerful tools is silence—the neutral nod that says, "Okay, go on. That's not all, is it?" The informant does want to give you a good story. Let him elaborate.

There are more manipulative techniques, such as asking leading questions, asking the same question in various ways until you get the answer you want, or the classic have-you-stopped-beating-your-wife structure that assumes the answer to the real question: *Did you report atrocities to your company commander, or keep them secret?* Techniques that would net the reporter a dry smile or a horselaugh from an experienced politician, or even another writer, could work well on a man who's never been interviewed before, no matter how intelligent he is—especially when the interview is about something as emotionally charged as his wartime experience.

This is not to say that Terry or any of the others did use these various tools. In none of the books can we tell. We never see the questions; only the answers.

The other factor, the journalistic selection procedure, is an obvious constraint on material. Terry did not interview twenty random black veterans and then sit down and type out his book. No; he found the ones with interesting stories, interviewed them,

and then winnowed through the interviews to find the twenty best. What other procedure could a writer use?

To me the most valuable aspect of *Bloods* is its record of racial tensions and injustice in Vietnam. Most of the combat soldiers note that racial differences disappear among "line" troops; one of them even had a KKK good-ole-boy as his best friend. None of them fails to notice, though, that there is a disproportionate number of black people around, and an awful lot of them being killed. Blacks accounted for 23% of American combat deaths, while comprising only 11% of young American males. The word for that is *genaesthesia*: the selective weakening of a race. The army didn't do it as a matter of policy, which in a way is a pity, because policy can be changed. The social forces that resulted in the disproportion are still with us, and lately we seem to be taking two steps backward for every step forward. So when the American war machine slides toward its next target, Central America or the Middle East or Trinidad, too much of the blood that greases it will be the blood of black men and boys.

The army told us that for every one combat soldier in Vietnam there were nine or ten support troops—"clerks and jerks," we called them in ironic envy—but you see very few interviews with that large majority. A book called *Nothing Happened: An Oral History of Cooks and Clerks in Vietnam* wouldn't sell many copies. But the Platonic-ideal Vietnam interview book, at least the one with maximum value as an anthropological document, *would* be topheavy with stories from rear echelon people, and those stories might not be dull. My platoon's perception of base-camp commandos was that they were a lot crazier than we were: more narcotics, more "attitude" problems, more likely to flip out—possibly because they had to sit through the rocket and mortar attacks and live with the threat (rarely enough realized) of human-wave ground attack, without ever being able to do anything about it. We could at least shoot back; we could retreat, we could look forward to the temporary relative safety of a fire base or base camp. They had one year of being passive targets.

Al Santoli's *Everything We Had* does give a nod in that direction, interviewing a few nurses and support people in intelligence and communications as well as the combat troops. It's my

favorite of the oral history books, possibly because of Santoli's obvious sympathies, since he was a grunt rifleman himself, and Stateside he worked with amputees as a physical therapy assistant. He's horrified by the war but not by the soldiers, and if he has an axe to grind it's this familiar one: the enemy is not really those little devils shooting at me. It's the faceless people safe from harm who pulled the strings that put me here. The Green Machine, we called them.

Santoli's book gives the most accurate mosaic of what Vietnam was like. But the one that works best as a document, the one I would choose to put in a time capsule and say, "Here's the evidence; judge it in your own way" that has to be *Charlie Company: What Vietnam Did to Us*. It's not as universal and compact as *Everything We Had*; not as heartsickening as *Bloods*; not as artful as *Nam*. What it does have that all the others perforce lack is a structure that compels some measure of objectivity. In 1981 a team of *Newsweek* reporters set out to track down all of the veterans of a single Vietnam company. Their criteria were that it must have been an infantry company, that they must have served in "the crucible years" 1968 and 1969, and that they had seen heavy combat. So their story will be *a priori* more dramatic than, say, that of a quartermaster company. But the reporters were out to find *everyone's* story, not just the ones that were most interesting or that best fit a predetermined pattern, consciously arrived at or not. Everyone they could track down had his say. They also interviewed the families of those who were killed during the war and, sadly, of a couple who survived the war but couldn't live with what came afterwards.

The result is interesting in both aspects of the men's stories: what happened in Vietnam and how they adjusted to life back in the World; what measure of material success and what measure of peace. The war stories are most interesting in the present context, though, and the most revealing. Because they were all in the same place, but they all fought in different wars.

For most, that's just a reflection of a universal truism. For a couple, it was something else. Something particularly significant in interpreting Vietnam war stories.

A couple of the veterans of Charlie Company reported memories

of interesting things that somehow escaped everybody else's notice. One of them had bragged to his local buddies of murdering a captain he didn't like (none of the company's CO's died during his tour) and "the landscape of his Vietnam was blighted by heads on pikes and napalm-broiled babies that, however real to him, nobody else in Charlie Company appeared to have seen."

I have the strange feeling I met this guy a few times in the other books. I know I've met people like him in person several times, because when they find out you're a writer "from the 'Nam" they have to come over and tell you their strange story. It often owes as much to *Apocalypse Now* as to reality. The scary ones aren't actually lying; for them, the membrane between invention and memory has disintegrated. We all succumb to a degree of this as we age, editing our memories to give our life coherence, meaning, interest. Some are better at it than others. Some people make it their life's work.

So how can you tell truth from fabulism? If you were there, or if you've made an exhaustive study of Vietnam, you might catch some storytellers in inconsistencies—but that might only mean that the guy hadn't paid attention to the same details that engaged you. And if he has everything absolutely right, it could mean that he's truly and gloriously bent; warped to the extent of spending every spare minute making sure his stories are believable and consistent.

Even the lies contain truth, and not in a mystical way, not as long as some of us listen and believe, and think we see our own dark nature reflected there. They may be made up to attract attention or elicit pity, or to sell newspapers or movies. But they have the force and innate veracity of myth.

¹ *The Big Fight*, by Capt. David Fallon, M.C. (W.J. Watt & Co., 1918)

² *Combat: Pacific Theater*, Don Congdon, Ed. (Dell, 1958)

Photographs and Memories

I was prepared to dislike the gallery show "Robert Mapplethorpe: The Perfect Moment" on several grounds, or several levels. I don't like my art mixed with hype, I don't want to be expected to like something because it's politically correct; because the wrong people dislike it. And the Mapplethorpe photographs I'd seen in books hadn't impressed me, most of them blatantly aggressive homoerotic challenges to my conventional sexuality. My impression of his work—again, from browsing books—was that he did good conventional art-school photography, using outrageous subjects.

So I was wrong. In the first place, only a small fraction of the work displayed was homoerotic, most of the pictures were still life compositions (usually flowers), portraiture, and figure studies that were "only" figures, not challenges. To me the portraits were the most impressive—hard-edged, unsparing, startling with their instant revelations of character (I later found out that Mapplethorpe got \$10,000 and more for a portrait, and the artist, not the sitter, chose the final result out of the hundreds of shots.) The pictures of children are startling, too, showing them in postures of grave defiance or startled candor, attractive but not at all cute.

It's obvious that he was a man of obsessions. Obsessed with naked black men, true, but also with flowers and pure geometries and faces, and one woman, Lisa Lyon, a body-builder whose

musculature is so highly developed that in some pictures she seems androgynous or even male (in other pictures she is conventionally female and more than adequately sexy).

All of the pictures are impressive in terms of concrete professionalism. There are no happy accidents. This is obviously a man who will burn up yards of film in search of just the right nuance. And then he takes it into the darkroom and fiddles and tweaks until the paper and light and chemicals give him just what he's aiming for. This is what you can't see in a book: the exquisite surfaces of the prints themselves, whether a soft platinum print on linen or laser garish Cibachrome. The obsessive personality revealed in his subject matter is just as well revealed in his attitude toward lens, emulsion, darkroom, matting, and framing. Anyone who knows photography has to be impressed with his technique, even if repelled by some of the subject matter.

An illustrative example that sticks with me is a superficially conventional picture of a woman walking through surf, casually naked, a neutral introspective expression on her face. It's a pretty picture. The pose and setting could have come straight out of any men's magazine pictorial, although the woman would probably have a more provocative expression.

There's something about the picture that seems odd, though; unsettling, and a moment's inspection shows that it's due to the combination of lens setting, exposure time, and emulsion choice. It goes against our expectations about glamour photography (not to say soft-core porn): a conventional shot would have been around $f/2.8$ with a fast shutter speed, about $1/1000$, and pretty fast color film, so you would isolate the woman's image with shallow depth-of-field and add drama to the picture with the sensuous time-frozen splash of surf around her calves. Mapplethorpe shot the black and white picture on slow fine-grained film with a slow shutter speed, $1/60$ or even $1/30$, and the lens cranked 'way down, $f/16$ or $f/22$ (No technical data were given with the pictures, so I have to infer everything from the result.) The picture is surgically crisp, and the depth of field is so generous that the surf is in focus from the bottom edge of the picture to the top, perhaps ten yards of water. The water splashing around her calves is blurred. It's hard to use words to describe the difference that this makes, but

it gives the woman and the sea equal dignity, equal reality. It's objective, but the exact opposite of pornography's "objectification" of the female body. It is a perfect moment, perfectly captured. This woman will grow old and die. Some day the sea will die. But *now* is all that matters; now is real.

Eventually you do have to deal with The Pictures, the ones Christian groups mail around to politicians; the ones that raise Jesse Helms's blood pressure (not high enough to finish him off, unfortunately). They're presented at the end of the show, as part of a group of 8x10 glossies under glass.

Five of them are outrageous. One is a picture of urinaglia, a man urinating into another man's mouth. One is a self-portrait of the artist with the handle of a whip inserted into his anus. One shows a man's genitals harnessed in a metal contraption, spattered with blood. One is a weirdly abstract photo of "fisting." A clinical close-up of a man using a vibrator. There are other pictures of people dressed in bondage restraints that are disturbing without being pornographic.

(There are two other pictures that bother bluenoses. One is the torso of a man in a polyester three-piece suit with an elephantine penis incongruously hanging out. It's a joke, guys. A joke. Another is a little girl in a frock, rocking away from the camera, unintentionally disclosing her lack of underwear. Anyone who finds erotic content in that ought to seek counseling.)

Some apologists for Mapplethorpe claim The Pictures are not pornographic because the artist's intent was serious. I don't see where one attribute makes the other impossible, if you think of pornography not as a legal term but as an everyday description of an everyday phenomenon. There are bookstores in every town of any size full of magazines wherein none of those pictures would seem remarkable except for their quality. The artist knew they were pornographic when he took them, though he might have described them with some more flattering and intellectually acceptable euphemism. I suspect and hope not; the impression you get from the show is of a man fiercely open and honest.

The pictures belong in the show for two reasons, not even counting the very real reason that the gallery would have made about a tenth as much money without them. One is that this

ultraviolet end of the sexual spectrum was an important part of the artist's life for many years, and he was not the kind of artist to hide it. The "But why make us look at it?" argument is ludicrous; I laid out a good chunk of a ten-dollar bill and most of an hour of waiting in line to see *those* pictures. Nobody held a gun to my head.

Second, those pictures are shocking, but an artist has the right and sometimes the obligation to shock his patrons. "The Anatomy Lesson" was shocking in its time; "The Disasters of War" outraged some of its audience. Rembrandt and Goya could have painted or drawn pictures like Mapplethorpe's, but they probably would have had more than their NEA funds cut off. We live in more interesting times; we're harder to shock.

More to the point is Mathew Brady. Brady could have stayed up north and continued to make a good living in studio portraiture. Instead he took his cameras and plates and chemicals down into hell, and sent back a travelogue. It would be simplistic to say that none of Mapplethorpe's photographs approaches the obscenity of those images of young bodies shattered, rotting open-mouthed in sunlit meadows; it would be invidious to compare the courage of Brady with the up-yours defiance of Mapplethorpe. In both cases, though, the artists made consciously political decisions—and I suspect that in both cases the prospect of fame, or notoriety, was at least as much of a factor as a desire to seek out truth in art.

It was an odd coincidence that PBS was showing the Brady photographs at the same time I went downtown to Boston's Institute of Contemporary Art to be challenged by Mapplethorpe. Brady probably hurts me more than he hurts most people, because I spent 1968 watching a dozen friends drop one by one in the jungle, protecting an irrelevant country from an obsolete doctrine, and when I see the Brady photographs I can smell the roadkill rot and hear the flies buzzing, and know that last night those guys were shooting craps or writing home or worrying about their nonexistent futures.

Mapplethorpe relates to that on a visceral, personal level, because like most people in the arts I have a lot of openly gay friends—and in the two decades since Vietnam I've lost half as many friends and acquaintances to AIDS as I lost to enemy fire.

In my mind the guys who wasted away because of their sexual preference were as innocent as those other boys—who are dead now longer than they were alive, just because they went along with the program and let themselves be drafted.

There is no conclusion. Brady didn't stop the next generation from bounding down to Cuba to die in the sun, or the next from going to France to die in the mud, and so on *et sequentes*. Mapplethorpe's brutal images will not deter any man from seeking out another man, if that's the way he's built, and won't make him sensible about what he does there if he's not otherwise inclined to be sensible.

But there is the woman frozen forever in beauty, in harmony with the sea. There are the boys who will litter the Pennsylvania battlefield for thousands of years to come. Most pictures are not worth ten well chosen words, let alone a thousand, but there are others that speak volumes. They are worth seeking out even if they're going to hurt.

Story Poems

Saul's Death

I.

I used to be a monk, but gave it over
Before books and prayer and studies cooled my blood,
And joined with Richard as a mercenary soldier.
(No Richard that you've heard of, just
A man who'd bought a title for his name.)
And it was in his service I met Saul.

The first day of my service I liked Saul;
His easy humor quickly won me over.
He confided Saul was not his name;
He'd taken up another name for blood.
(So had I—my fighting name was just
A word we use at home for private soldier.)

I felt at home as mercenary soldier;
I liked the company of men like Saul.
(Though most of Richard's men were just
Fighting for the bounty when it's over.)
I loved the clash of weapons, splashing blood—
I lived the meager promise of my name

Saul promised that he'd tell me his real name
When he was through with playing as a soldier.
(I said the same; we took an oath in blood.)
But I would never know him but as Saul;
He'd die before the long campaign was over,
Dying for a cause that was not just.

Only fools require a cause that's just.
Tools, and children out to make a name.
Now I've had sixty years to think it over
(Sixty years of being no one's soldier).
Sixty years since broadsword opened Saul
And splashed my body with his precious blood.

But damn! we lived for bodies and for blood.
The reek of dead men rotting, it was just
A sweet perfume for those like me and Saul.
(My peaceful language doesn't have a name
For lewd delight in going off to soldier.)
It hurts my heart sometimes to know it's over.

My heart was hard as stone when it was over;
When finally I'd had my fill of blood.
(And knew I was too old to be a soldier.)
Nothing left for me to do but just
Go back home and make myself a name
In ways of peace, forgetting war and Saul.

In ways of blood he made himself a name
(Though he was just a mercenary soldier) --
I loved Saul before it all was over.

2.

A mercenary soldier has no future;
Some say his way of life is hardly human.
And yet, we had our own small bloody world
(Part aches and sores and wrappings soaking blood,
Partly fear and glory grown familiar)
Confined within a shiny fence of swords.

But how I learned to love to fence with swords!
Another world, my homely past and future—
Once steel and eye and wrist became familiar
With each other, then that steel was almost human
(With an altogether human taste for blood).
I felt that sword and I could take the world.

I felt that Saul and I could take the world:
Take the whole world hostage with our swords.
The bond we felt was stronger than mere blood
(Though I can see with hindsight in the future
The bond we felt was something only human:
A need for love when death becomes familiar).

We were wizards, and death was our familiar;
Our swords held all the magic in the world.
(Richard thought it almost wasn't human,
The speed with which we parried others' swords.
Forever end another's petty future.)
Never scratched, though always steeped in blood.

Ambushed in a tavern, splashing ankle-deep in blood;
Fighting back-to-back in ways familiar.
Saul slipped: lost his footing and our future.
Broad blade hammered down and sent him from this world.
In angry grief I killed that one, then all the other swords;
Then locked the doors and murdered every human.

No choice, but to murder every human.
No one in that tavern was a stranger to blood.
(To those who live with pikes and slashing swords,
The inner parts of men become familiar.)
Saul's vitals looked like nothing in this world:
I had to kill them all to save my future.

Saul's vitals were not human, but familiar.
He never told me he was from another world:
I never told him I was from his future.

Homecoming

His hometown was space, and he never left;
The boy who watched the Russian beeper drift
through the twilight is the old man who camped
outside the Cape to watch huge dumbos lift
their loads of metal, oxygen, water...
Living in the back of an ancient Ford,
showing children, at night, the starry sky
through a telescope his young hands had built,
seventy years before.

He died the week before
they came back from Mars. But every story
ends the same way. Some extra irony
for the Space Junky. His life had twists, turns,
wives, deaths, jail, a rock. One story that he loved:
The time he gave the army back exactly
what the army gave to him. "Bend over,
Westmoreland," he'd shout in his cracky voice,
and only other oldsters would get it.
In college in Florida, just because
he could watch the rockets; the Geminis
the Apollos—roaring, flaring, straining
around the Moon...

but then he was drafted.
Sent to 'Nam months after Tet. Bad timing
more ways than one. The fighting was awful,

the worst yet—but worse than that, the timing!
The year! When men first stepped down on the Moon
he was not going to be on his belly
in the jungle. He was going to be *there*.

The Space Junky was a poker player
without peer. Saved his somewhat porky ass,
this skill, just knowing when to push your cards,
and when to pass—the others always stayed
in every hand; it was like harvesting
dandelions. Almost embarrassing,
the way the money piled up—play money,
“Military Payment Certificates,”
but a shylock in Saigon would give you
five for six, in crisp hundred-dollar bills.
Kept them in a Baggie in his flak vest,
those C-notes, until he came up for “Rest
and Recreation,” a euphemism,
trading the jungle for a whore’s soft bed
for a week. He went to Bangkok, where girls
were lined up on the tarmac as you left
the plane. He chose a fat and kindly one,
and explained what it was he had in mind.
She took him home for two bills, made some calls.
Gave him a rapid bit of sixty-nine
(not in the deal), and put him in a cab.
A man with a printing press signed him up
in the Canadian Merchant Marine.
Seven seasick weeks later he jumped ship
in San Francisco, and made his way down
to Florida, in July of sixty-nine,
to stand with a million others and cheer
the flame and roar, the boom that finally broke
the sullen surly bonds of gravity.
And then in a bar in Cape Kennedy,
a large silent crowd held its beery breath,
watching a flickering screen, where craters
swelled and bobbed and disappeared in sprayed dust,
and Armstrong said “The Eagle has landed,”
(put *that* in your pipe and smoke it, Westy!)

and it was tears and back slaps and free drinks,
but the next day the Space Junky was where
he'd be for the next seven years, the night
sky hidden by layers of federal
penitentiary.

But iron bars do not
a prison make to a man whose mind is
elsewhere. He was just a little crazy
when he went in—and when he came out
he was the Space Junky, and not much else.
He never missed a launch. When the Shuttle
first flew, he pushed that old Ford from the Cape
to California, to watch a space ship—
a real space ship—come in for a landing.

He watched the silent robot probes go by
every planet save one (well, you can't have
everything), and an asteroid, comets,
countless rings and moons

In the winter cold
he watched ill fated *Challenger* explode.
Less surprised than most, shook his head, dry-eyed:
he cried years later when it flew again.

The Space Junky saw them lift the Station
piece by piece; saw us go back to the Moon,
from the back of a succession of Ford
station wagons, always old and beat up.
He made enough with cards to get along;
lived pretty well, cooking off a Coleman,
sipping cola, waiting for the next launch.

After some years, they all knew who he was,
engineers, P.I. men, the astronauts
themselves. It was a Russian cosmonaut
who bent over the rusty sands of Mars,
and picked up a pebble for the Space Junky.

They were all sad to find he hadn't lived

They put the rock in a box with his ashes.

They put the box in low orbit, falling

It went around the Earth just seven times,

and sketched one bright line in the starry sky
that was his hometown

where he'd not been born
and where he never visited, alive,
but never left.

Time Lapse

At first a pink whirl
there on the white square:
the girl too small to stay still.

After a few years, though
(less than a minute),
her feet stay in the same place.

Her pink body vibrates with undiscipline;
her hair a blond fog. She grows now
perceptibly Watch...she's seven,
eight, nine: one year each twelve seconds.

Always, now, in the audience,
a man clears his throat.
Always, a man.

Almost every morning
for almost eighteen years,
she came to the small white room,
put her bare feet on the cold floor,
on the pencilled H's,
and stood with her hands palms out
while her father took four pictures:
both profiles, front, rear.

It was their secret. Something
they did for Mommy in heaven,
a record of the daughter
she never lived to see.

By the time she left (rage and something
else driving her to the arms of a woman)
he had over twenty thousand
eight-by-ten glossy prints of her
growing up, locked in white boxes.

He sought out a man with a laser
who some called an artist
(some called a poseur),
with a few quartets of pictures,
various ages: baby, child, woman.
He saw the possibilities.
He paid the price.

It took a dozen Kelly Girls
thirty working hours apiece
to turn those files of pretty pictures
into digits. The artist,
or showman,
fed the digits into his machines,
and out came a square
of white where
in more than three dimensions
a baby girl
grows into a woman
in less than four minutes.

Always a man clears his throat
The small breasts bud
and swell in seconds. Secret
places grow blond stubble, silk;
each second a spot of blood.

Her stance changes
as hips push out
and suddenly
she puts her hands on her hips.

For the last four seconds,
four months;
a gesture of defiance.

The second time you see her
(no one watches only once),
concentrate on her expression.
The child's ambiguous flicker
becomes uneasy smile,
trembling thirty times a second.
The eyes, a blur at first,
stare fixedly
in obedience
and then
(as the smile hardens)
the last four seconds,
four months:

a glare of rage

All unwilling,
she became the most famous
face and figure of her age.
Everywhere stares.
As if Mona Lisa, shawled,
had walked into the Seven/Eleven...

No wonder she killed her father.

The judge was sympathetic.
The jury wept for her.
They studied the evidence
from every conceivable angle.

Not guilty,
by reason of insanity.

So now she spends her days
listening quietly, staring
while earnest people talk,
trying to help her grow.

But every night she starts to scream
and has to be restrained, sedated,
before she'll let them take her back

to rest

in her small white room.

DX

So every night
You build a little house

You dig a hole
and cover it with
logs

A house you
sleep beside
and hope not
to enter

Cover with logs
with sandbags
against the
shrapnel weather

Some nights you wake
to noise and light
and metal singing

Roll out of the bag
and into the house
with all the scorpions
centipedes roaches
but no bullets flying inside it

Most nights
you just sleep

deep sleep
and dreamless
mostly
from labor

This night was just sleep.

In the morning
you unbuild the house

hours of work
again
for nothing

Kick the logs away
pour out the sandbags
into the hole

Roll up the sandbags
for the next night's bit
of rural urban renewal

Eat some cold bad food
Clean your weapon
Drink instant coffee
from a can

Most carefully
repack the demolition
bag: blasting caps
TNT plastic time fuse
det cord—

Check the tape on
the grenades;
check the pins
Inspect ammo clips
Clean the top
rounds with
illegal
gasoline.)

ten kilograms of fragile
most instant
death

Then shoulder the heavy rucksack
Secure your weapons and tools
and follow the other primates
into the jungle

watching the trees

walk silently
as possible
through the green

watching the ground

Don't get too close
to the man in front of you

This is good advice:
don't let the enemy
have two targets.

Remember that: don't get too close to any man.

Only a fool, or an officer,
doesn't grab the ground
at the first shot

high-pitched
rattle
of M-16s

even if it's rather distant

louder
Russian rifles
answer

even if it's
a couple of clicks away

manly chug
of heavy
machine
guns

God knows which way they're shooting

grenade's
flat
bang

Like fools, or officers,
we get up off the ground and move

All that metal
flying through
the air—

and do we move away
from it?

no

We make haste
in the wrong direction

like fools or officers
we head for the
action

making lots of noise now
who cares now

but careful not to bunch up

Remember don't get too close to any man.

It's over before we get there.
The enemy, not fools
(perhaps lacking officers)
went in the proper direction.

As we approach
the abandoned enemy camp
a bit of impolite and
(perhaps to you)
incomprehensible
dialogue greets us:

"You wanna get some
X-Rays down here?
Charlie left
a motherfuckin'
DX pile
behind."

TERMS

X-Rays are engineers,
demolition men,
us

Charlie is the enemy

"DX" means destroy;
A DX pile is a collection
of explosives that are no longer
trustworthy. When you leave
the camp finally, you
put a long fuse on the DX pile, and
blow it up.

(Both "motherfucker" and "DX"
are technical terms that can serve as
polite euphemisms:

"Private, you wanna DX that motherfucker?"	instead of	"Private, kill that man.")
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We'd been lucky.
No shooting.
Just a pile of
explosive
leftovers
to dispose of.

And we'd done it before.

It was quite a pile,
though,
taller than a man

artillery shells
mortar rounds
satchel charges
rifle grenades

all

enough to kill
everybody
with some left over

festooned with
chains of
fifty-caliber
ammunition

The major wouldn't
let us
evacuate his troops
then put a long fuse on the pile

We had to stand there
nervous
and guard it

no

They'd been working hard
first they get lunch and a nap
then we can move them out
and we can blow it.

(we liked his "we")

We didn't know
it was wired for sound

it was booby-trapped

Remember: don't get too close to any man:

Don't know that Farmer
has an actual farm waiting
back in Alabama

and

Don't know that
Crowder
has new grandbabies
and is headed
for retirement
when he gets home

and

Don't know that Doc
was a basketball champ
in his black high school
and really did want
to be a doctor

Because they all are
one short beep
of a radio detonator

away
from

a sound
 so loud grey smoke
 you don't
 hear it blood
 really

It just hits you like a car.

Doc
 both his long legs
 blown off
 dies quickly

everywhere blood
 and screaming

Sergeant Crowder
 separated from one
 foot
 is unconscious
 or stoic

Farmer had his belly spilled
 but lived long enough to shout

"Professor?

Where'd they get you?"

and since I didn't have
 enough breath
 for a complete catalog

(foot shins knees
 thigh groin genitals
 arm ear scalp
 and disposition)

I settled for "the balls."

Oh my God
 Farmer said
 then he died

Two days later
 I woke up in a dirty hospital
 (sewed up like Frankenstein's charge)
 woke up in time
 to see Crowder leave
 with a sheet over his eyes

and so it was over

in a way

the whole squad DX
 but me

there is nothing for it
there is nothing you can take for it
they are names on a wall now
they are compost in Arlington
and somehow I am not

but give me this

There are three other universes like this:

In one, Farmer curses the rain
wrestles his tractor through the mud
curses the bank that owns it
and sometimes remembers
that he alone survived

In another Crowder tells grown grandchildren
for the hundredth time
over a late-night whiskey
his one war story
that beats the others all to hell

In the third Doc stands over a bloody patient
steady hand healing knife
and sometimes he recalls
blood years past and sometimes
remembers to be glad to be alive;

in these worlds
I am dead

and at peace.

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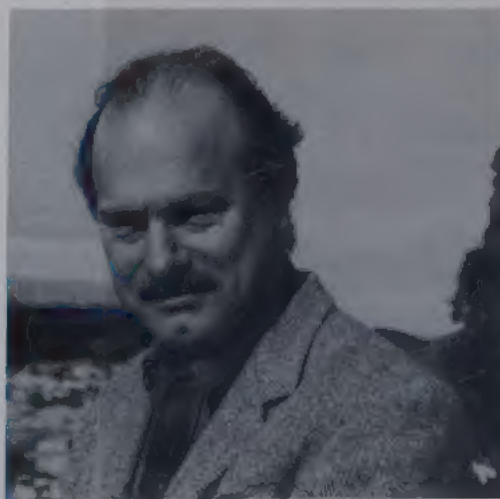
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